Croonian Lectures
ON
SOME APPLICATIONS OF PHYSICS TO MEDICINE.

Delivered at the Royal College of Physicians of London, March 1879,

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LECTURE II.—PART II.
ON PLEURAL TENSION.

IN speaking of tension in cysts, I showed the difference between pressure within the peritoneal cavity, as in ascites, and in the cell-wall which surrounds an ovarian tumour. I was also able to get a certain measure of the tension which the diaphragm can exercise. It was found that, where the peritoneum is full of fluid, by attaching a gauge to the cannula, and taking the pressure in inches of water, energetic action of the diaphragm would raise it about two inches, from five to seven inches in cases of ascites. In some instances, as with violent struggling, there was a pressure of four or five inches for a moment, the fluid being jerked upwards, but with steady forced inspiration it rose two inches. I now wish to take the converse of that observation, and have attempted to find the negative pressure on the other side, when the diaphragm becomes tense. Collections of fluid form above as well as below the diaphragm, so that it is easy to introduce the trocar in cases of pleurisy, and estimate the force of the diaphragm in a suctional way.

On going a little further, it becomes obvious that there is another point of considerable importance. I have had two or three cases of paracentesis in which little or no fluid came away. It now appears that other operators have been in the same difficulty. It would seem that we have entertained a false idea as to the condition of liquid effusions in the pleura, and I may therefore begin my remarks on the present subject by speaking of the physical conditions which I understand to preside over expiration and inspiration. Any person who has studied hydrostatics must see that inspiration and expiration are two very different things. Expiration is a simple compression of the tissue of the lung by muscular apparatus around it, but inspiration is a totally distinct process. The visceral and parietal layers of the pleura so completely separate the walls of the chest from the contained lung that the air-containing tissue is not the least obliged to follow the enlargement of the parietes. What does constrain it to follow is the pressure of the external atmosphere going in at the trachea. It is a case of suctional effort as distinct as that of an ordinary pump. Expiration, moreover, is very materially assisted by the elastic tissue which the lung contains so abundantly. This elastic tissue appears to have very much more power than I had, *à priori*, given it credit for, and more, perhaps, than has been given it by surgeons in the operation of tapping. That is the principal practical point to which I hope to come. Now we have an approximate measure of the power of the diaphragm. Dr. Haughton, in his excellent work, gives us this estimate of the muscular force of the diaphragm. He says: "The diaphragm which forms the upper surface of the abdominal cavity furnishes an example of a convex ellipsoidal muscle. It is used continually in respiration, and occasionally in the expulsion of the contents of the abdomen. Its force is considerable, though not equal to the maximum efforts of the abdominal muscles, and being an involuntary muscle not under our control it provokes the abdominal muscles to take on a violent reflex action; in coughing its effects are sometimes dangerous, as, for example, in cases of hernia. It is, therefore, important, not merely in a scientific, but also in a practical point of view, to know the amount of hydrostatical pressure it is capable of producing upon the contents of the abdomen." Then he gives the measurements. "From measurements made I infer that the mean curvatures of the diaphragm, when most convex, correspond with circles of 5·601 inches and 5·109 inches in diameter at the two sides of the body, and that the mean thickness of its muscular walls is 0·18 inches." He gives the co-efficient of muscular force as 102·55—that is, the diaphragm has a power of lifting a weight or of doing work up to 102½ lb. That is the force which it can exercise in inspiration; but against this there is a force to be deducted, namely, the elastic power of the lung.

This power, even in the dead lung, is very considerable.[1] In the normal condition, the air, by the flattening of the diaphragm and the raising of the ribs, is driven in at the entrance of the trachea, and the lung is forced to expand by atmospheric pressure, by the pressure of a column of air fifty or sixty miles high, and by nothing else; whereas expiration is purely a crushing together of the lungs by the muscular power around.

This touches upon the question of emphysema. I believe emphysema—that is, a morbid expansion of the air-cells of the lungs—to be due, not to expiratory efforts, as some authorities say. It cannot be so, but is due principally to inspiratory efforts. My present object is more the natural condition of things, and the alteration of this condition when fluid is in the pleura. Before investigating the tension of the morbid pleura it struck me that the healthy condition ought to be examined. I accordingly introduced a trocar into the pleura of a live sheep just before killing, and found that the elastic tissue of the lung, as antagonising the opening tendency of the cage of the thorax, supported from four to five inches of water. Here we have one of our factors distinct, the amount of the partial vacuum which is formed between the two layers of the healthy pleura.[2]

What led me to think seriously about this subject is a case which happened only a few months ago. At my old school, the Charterhouse, I was asked to look at one of the boys whom they were afraid was dying. I saw the patient, a fine, healthy, hearty boy, fourteen or fifteen years of age, lying on his right side in bed. The lips were livid; the face blue. He was breathing very rapidly, and complained on being moved out of his posture. On examining him I found his right side distended with fluid. The intercostal spaces seemed to bulge, and the apex of the heart was beating in the left axilla. It was a case which ought instantly to be tapped; and, after a little delay, the boy was tapped. Nothing came out but about a teaspoonful of clear serum, and an air-bubble or two went in with deep inspiration. The poor boy died on the following night. The half an ounce of fluid showed that the trocar was in the cavity of the pleura. We, moreover, passed a probe through the trocar its whole length without touching the lung. There was a large collection of fluid, but that fluid, although apparently so tense, had no tendency to come out. Had I had with me then the means of producing suction, the boy's life would probably have been saved.

Another case has since occurred to me in the hospital. It was that of a healthy-looking girl, about twenty. She had rheumatism two and a half years before, which lasted six weeks, leaving some short breath and palpitation. A second attack had occurred two months before admission, and on the 22nd of August she complained of pain in the right shoulder. The tongue was furred, the appetite bad, the pulse 100 and irregular, respiration 30. She complained of cough, difficulty of breathing, and pain in the back on the left side. The urine had a specific gravity of 1020, with a trace of albumen. There was a loud systolic murmur at the apex of the heart, and a double murmur over the sternum. The impulse of the heart was one inch to the left of the middle line and two inches below the nipple. Evidently there was heart disease, but there was also secondary pleurisy. On the left side there was dulness over the lower three-fourths of the lung, with absence of vocal fremitus and marked ægophony. On the 23rd the respiration was 30 a minute and the pulse 100; the temperature 96° in the morning and 100·2° in the evening. On the 24th the respiration was 28 and the pulse 100. The circumference of chest on the 25th was thirty-one inches and a half, the left side measuring half an inch more than the right—sixteen inches against fifteen and a half. By the 29th dulness had extended over all the lung. It extended also one inch to the right of the median line, and the heart was displaced downwards; its

[1] See also a paper by Douglas Powell on "Some Effects of Lung Elasticity," in vol. lix. Medico-Chirurgical Transactions.

[2] I find it has been estimated by Donders at six millimetres of mercury.

impulse was very strong in the epigastrium, and the respiration was 30 in the minute against a pulse of 96. On the 31st I performed paracentesis, and drew away three pints seven ounces of yellow serous fluid. This, when cold, had a specific gravity of 1020. Before drawing off the fluid I took the pressure, and although there were nearly four pints of fluid in the pleura, there was no external tension, no inclination for the fluid to come out; indeed, every time she took an inspiration there was a negative pressure sufficient to support two inches of water. The suctional effect which was found in the sheep is four or five inches. Even with this large amount of effusion in the pleura it remained able to support two inches of water. We removed nearly four pints of fluid by attaching a long tube to the trocar, so as to form a descending column, the tube being about three feet long, and this height, as she sat up in the bed, of course more than counterbalanced the four or five inches which we found in the sheep's pleura. We had antagonised the negative tension, and the fluid escaped. Immediately after tapping, the upper third of the left side became resonant, but the heart continued to beat strongly in the epigastrium, and the anterior dulness still extended to the lower border of the second rib. If you consider what suctional force we were using, you see the column of serum, which was ·02 heavier than water, would make a water barometer about thirty feet high instead of the usual thirty-three feet, so that we had a pressure of about ·1 of an atmosphere, or 1½ lb. on a square inch. The tube at the end of the trocar worked extremely well, very much better than the usual aspirator. The aspirator often breaks down just as you want to trust it. Even if it does act, it exercises such violent and vigorous suction that it is apt to collect false membrane round the end of the trocar and block it up, whereas the gentle suctional effect of a tube reaching to the floor will gradually extract all the fluid without giving any annoyance; moreover, it prevents the entry of air. It is far better not to open the cavity of the pleura to the air, and by using this long tube, there must be a very long regurgitation before the air can get in.[3]

Another case occurred in the hospital, where I was unable, even by very considerable suction with my mouth, to obtain more than a few drachms of fluid from the chest of a child, aged ten months, who had effusion in the pleura. Here, however, I cannot help thinking that there was some instrumental error. It is possible that the trocar, which in passing accidentally touched upon the edge of one of the ribs, may have cut off a little piece, and thus have been plugged up. We did extract two or three drachms of fluid, using suction by the mouth, but with considerable difficulty. It would seem, however, that even where the effusion in the pleura is very considerable, the elastic contraction of the lung is sufficient to prevent any outward tendency of the fluid, so that you must use considerable suctional power. This fact has many other bearings which need not now be entered on. All abscesses the cavity of which is rigidly kept open must be differently treated from those which have the power of collapsing. There is no opportunity for contraction of the walls, and if pus be there some means of exhaustion must be provided before you attempt to evacuate the cavity. A similar tension keeps fistulæ of the anus so long open in many cases; the walls of the sinus are unable to contract and allow the cavity of the abscess to fill up. Similarly in purulent effusions affecting the pleura, you cannot expect healing so rapidly as you would with an external wall which could contract freely after the evacuation of the contents.

The bulging of the intercostal spaces can be accounted for as simply due to removal of part of their ordinary tension. We are accustomed to see them under a negative pressure of four or five inches, a pressure which is shown to be partially removed when effusion is present. This explanation is corroborated by the presence of the same phenomenon in pneumothorax.

The publication of the above remarks in the form of a clinical lecture having attracted the attention of our able consulting surgeon, Mr. Le Gros Clark, he was kind enough to forward to me a communication of his to the Royal Society in 1872, which bears so distinctly on the subject that I feel that a reproduction of a part of it will assist materially in completing the solution of the problem.

[3] Much of this has, I have since found, been anticipated by my friend Dr. Douglas Powell, in a paper on Paracentesis Thoracis, read before the Clinical Society in 1870.

1. In performing some experiments on recently slaughtered animals, says Mr. Clark, for the elucidation of a subject which I was then engaged in investigating, I was struck with the remarkable arched tension of the diaphragm, a condition which continued unabated until air was admitted into the pleural spaces, and then it became flaccid and descended. This altered condition was attended by collapse of the lungs, which receded from the thoracic walls, and occupied a much smaller space than previously.

2. In order to measure the quantity of air expelled from the lungs in the preceding experiment, and to ascertain how far the collapse of the lungs and the altered condition of the diaphragm were dependent on each other, the following experiment was performed. The trachea of a sheep, immediately after death, was exposed in the neck, divided, and tied over a glass-tube, which was put in communication with a graduated receiver placed under water, and guarded by a stopcock. The pleuræ were then opened, and as air entered the diaphragm became flaccid; but the lungs remained unchanged in position and form. The stopcock was then opened, and a rush of air, displacing the water in the receiver, was accompanied by collapse of the lungs. The quantity of air thus forcibly expelled was from ten to twelve cubic inches.

3. The interpretation of this experiment is—(*a*) That the passive tension of the diaphragm is due to the atmospheric pressure on its abdominal surface, which is not counterbalanced by a corresponding pressure on the opposite or thoracic surface, until air is admitted into the pleuræ. (*b*) That the lungs retain their supplemental air by virtue of this tense condition of the diaphragm, the elasticity of the former being resisted by the tension of the latter. (*c*) That the contractility of the lungs, tending to the expulsion of the supplemental air, removes the atmospheric pressure from the upper surface of the diaphragm, and thus produces and maintains its arched form and tense condition. (*d*) That as soon as the pressure on the inner and outer surfaces of the lungs was equalised, by the admission of air into the pleuræ, their contractility forced out the supplemental air; and the quantity thus expelled may be accepted as an approximate measure of the elasticity of these organs. (*e*) That the diaphragm was rendered flaccid by the admission of air into the pleuræ, independently of the collapse of the lungs.

4. Thus there exists a constant antagonism between the atmospheric pressure on the interior of the lungs and their elastic and contractile properties, tending to the expulsion of the air they contain; and this expulsive power is limited by the resisting tension of the diaphragm. These several conditions are in no degree influenced by the direct admission of air into the abdominal cavity; for the trachea being treated as in the former experiment before the abdomen was opened, and an aperture being then made into the peritoneum, the abdominal walls rose as air rushed in, but no air was expelled from the lungs. The expansion of the abdomen under these circumstances is especially remarkable in oxen when turned on their back, and is probably in great measure due to the position favouring the expansion of the lower costal region.

5. In the recognition of the above facts, I think that the extremely tense condition of the diaphragm has not received the notice which its practical importance deserves. Independently of being the agency by which the supplemental air is retained in the lungs, the resistance thus offered limits the encroachment of the abdominal viscera on the thoracic cavity; and by this same property, combined with the broad and inseparable attachment of the central tendinous expansion to the fibrous pericardium, the heart is preserved from being impeded in its movements in the various stages of respiration.

That the tension in question fulfils these functions is exemplified pathologically as well as physiologically. It would indeed be impossible, without giving due weight to this property of the diaphragm, to account for the trifling interference, comparatively speaking, that pregnancy, or the presence of large ovarian tumours or ascitic accumulations, exercises over the mechanism of respiration; and it would appear still more surprising that the sudden removal of such distension, and with it the pressure on the diaphragm, is not attended by more serious consequences. Yet the respiratory mechanism is scarcely influenced appreciably even by the sudden collapse of an enormous ovarian cyst; and this is accounted for by the passive tension of the diaphragm, which alike resists encroachment from below

and refuses the solicitation to descend which the removal of the pressure would seem to offer.

6. In the action of the diaphragm this tension is an essential condition, in order that there may be no waste of power, but that its earliest contraction may be accompanied, at once and simultaneously, by the entrance of the tidal air into the lungs; and it would seem probable that, for ordinary expiration, the suspension of its contraction and consequent return to its normal state of arched tension is alone sufficient.

7. But further considerations present themselves in reviewing this property, in association with the attachments of the diaphragm, and the relations of other muscles credited severally with functions in both inspiration and expiration.

8. The thoracic parietes, both osseous and cartilaginous, are movable, admitting of an increase or diminution in the circumference of the chest; and the diaphragm is attached, by its circumference, to the chest-walls. As the force by which the tensely-arched diaphragm is rendered plane is necessarily considerable, it may be asked, Does the contraction of this muscle under any circumstances draw in the ribs? And why does it not do so always? I believe the answer to the first inquiry to be, that it does, under some circumstances, draw in the ribs; and the explanation of the second must be sought in a consideration of the agency of other muscles engaged in inspiration, to which attention will be presently directed.

9. The property of the diaphragm under consideration—its passive tension—is engaged in restoring the equilibrium of rest after a deep expiration. The supplemental air is expelled from the lungs chiefly by the action of the abdominal muscles, the circumference of the chest undergoing no appreciable change except at the lower part, where it is directly acted on by these muscles. When they are relaxed, and the lower costal region again expands, the diaphragm asserts its passive influence by drawing in so much air as the counter-resistance of the contractility of the lung-tissue will permit.

10. But this agency is somewhat more complex than would appear from the above statement. The passive tension of the diaphragm is such that it would probably be sufficient to resist the efforts of the abdominal muscles to force it upwards, without the co-operation of another cause, which is the altered condition of the chest-walls. The lower ribs are perceptibly drawn inwards, as stated, when the supplemental air is expelled from the lungs; and, as a necessary consequence, the horizontal portion of the diaphragm is relaxed, and thus placed in a condition which permits of its being forced upwards, so as to compress the lungs.

11. But the deepest inspiration is also attended by hollowing or drawing in of the epigastrium; and the increasing circumference of the lowest costal region, which is limited as compared with the upper, is almost arrested before the act of forced inspiration has attained its maximum; and the rise in the abdomen is likewise suspended before this climax is reached. These conditions are due, I apprehend, to the combined effect of atmospheric pressure on the relaxed abdominal walls, concurrently with the extreme contraction of the diaphragm, overcoming the resistance of the intercostal muscles, and drawing in the lower ribs.

12. As exemplifying, in a remarkable and interesting way, the foregoing observations, I may mention the case of a patient recently an inmate of St. Thomas's Hospital, in whom there was fracture, with displacement of the sixth cervical vertebra, by which the cord was compressed. He survived the injury less than three days, and there was complete paralysis of motion and loss of sensation below a line level with the nipples; the movement of the arms was also impaired. "The walls of the chest, across and below the nipples, were retracted at each inspiration." I quote the words of the hospital registrar; but I repeatedly proved this, and demonstrated the fact to others, by placing around the chest, just over the nipples, a tape, which became relaxed at each inspiration to the extent of at least half an inch. The inspirations were short and sudden, the expirations prolonged, and latterly intermittent. This is not the only instance in which I have observed this phenomenon under similar conditions.

The following case has more recently come under my observation, and I give it according to the report of Mr. Anderson, the surgical registrar of the hospital:—"F. F——, aged fifty-eight, a bricklayer, was admitted into St. Thomas's Hospital in February, 1871, having fallen from a considerable height, and struck some projecting object in his descent; he remained incapable of movement, though perfectly sensible. The lower limbs were paralysed, and the movements of the upper extremities were impaired; and he complained of great pain shooting from the neck into the upper extremities. In breathing, the whole chest was very perceptibly drawn in during inspiration, and the abdomen became more prominent than is normal. The chest was slightly raised as a whole, and the sterno-mastoids were seen to act strongly. The lower ribs were not drawn downwards, but appeared to be pulled directly inwards, or inwards and slightly upwards. In expiration the chest-walls appeared to relax, as if from the cessation of some contracting influence. The respiration, as a whole, was jerking, but not increased in frequency. Subsequently the chest appeared to act unilaterally, as if from unequal action of the two sides of the diaphragm, the ribs on the left side being drawn inwards during inspiration, whilst the right half of the thorax was thrust outwards passively. He survived the accident about sixty hours; and the cord was found crushed between the fifth and sixth cervical vertebræ, which were fractured." This peculiarity in the diaphragmatic breathing must be due, in the main, if not entirely, to the suspension of the intercostal action, whereby the ribs are left at liberty to be acted upon, and thus drawn in by the contraction of the diaphragm.

13. I would remark, as bearing upon the foregoing observations and those I am about to make, that in the unfettered adult body, in the erect or sitting posture, the sphere of respiratory movements, as seen and measured, is chiefly limited to the region which is bounded above by a horizontal line extending outwards from the lower extremity to the sternum, and below by a similar line extending from the umbilicus to the anterior spine of either ilium. In the recumbent posture, when the abdominal muscles are relaxed, the movement extends lower over the abdomen. Yet the measurements are by no means commensurate with the apparent movements. The deeply notched form of the chest below, with its movable elastic boundary of cartilage, is well adapted to admit of these necessary movements of alternate expansion and contraction.

From a series of further experiments Mr. Clark draws the following conclusions:—

(1) The normal state of the diaphragm, when at rest, is that of arched tension; and this condition is due to the elasticity of the lungs resisting the atmospheric pressure on its thoracic surface.

(2) This tension is such that the diaphragm cannot be forced upwards whilst the ribs are fixed; and is exerted in drawing the ribs inwards when the intercostal muscles are relaxed.

(3) The results due to this passive tension are that (*a*) it retains the supplemental air in the lungs; (*b*) it limits the encroachment of the abdominal viscera on the thoracic cavity; (*c*) by virtue of the attachment of the pericardium to the cordiform tendon, the uniform calibre of this bag is secured, and the heart is thus protected from being impeded in its movements during respiration, the crura taking part in maintaining this condition when the muscle contracts; (*d*) it economises active power in inspiration.

(4) *Inspiration.*—When the upper ribs are fixed by the scaleni, both sets of intercostal muscles act in increasing the transverse diameter of the chest, by raising the curve of the ribs and the sternum. They rotate the ribs outwards. They fix the thoracic walls, and thus antagonise the tendency of the diaphragm to draw inwards the ribs to which it is attached. A fixed circumference is thereby secured, from which the diaphragm acts in altering its own form; and this is one of the most important functions of the intercostal muscles. They assist in expiration when the lowest ribs are fixed by the abdominal muscles.

(5) The scalenus anticus and posticus (especially the former) are auxiliaries in inspiration by raising and fixing the first and second ribs, and thus rendering them relatively immovable. Thus, when the scaleni act, the intercostal muscles raise the ribs; when the scaleni are at rest, and the abdominal muscles act, the intercostals depress the ribs; if neither the scaleni nor abdominal muscles were to act, the ribs would be approximated at their centre by the action of the intercostal muscles.

(6) The pectoralis minor (when the coracoid process is fixed), the lower costal portion of the pectoralis major, and some other muscles of minor importance, might assist in elevating the ribs; but it is questionable whether they ever do so in such way as to assist in inspiration.

(7) The serratus magnus has no action in inspiration; all but its lowest digitation must draw the ribs downwards, if they act on them at all.

(8) The action which the sterno-mastoid is capable of exerting in inspiration is by fixing the first rib through the medium of the clavicle, and by raising the sternum. This is not required in health, but may be witnessed occasionally in disease.

(9) *Expiration.*—Ordinary expiration is accomplished by the elastic resiliency of the lungs, the tense diaphragm resuming its arched form when the muscle ceases to contract; the elasticity of the ribs and abdominal parietes may assist to a limited extent; after a deep inspiration this elasticity has a more important share in expiration. The abdominal muscles, which conjointly with the levator ani are the agents of forced expiration, do not act by urging the abdominal viscera against the *tense* diaphragm, which would resist the pressure, to the injury of these viscera, but against the *relaxed* diaphragm—relaxed, that is, by the abdominal muscles drawing down the lower ribs, and thus contracting the circumference of the lower part of the chest. The intercostal muscles also contribute importantly to this result, as the effect of their contraction is reversed, by the lower limbs being relatively fixed during the action of the abdominal muscles. In this way both the long diameter and the circumference of the chest are abridged.

(10) The upper and lower costal movements in both sexes, when entirely unfettered, are equal, in ordinary inspiration and in the uncontracted chest. The costal movements, both upper and lower, are much greater in forced inspiration in the male than in the female. In both the lower costal movements are much abridged by compression of the abdomen and lower part of the chest, while the upper costal movements are exaggerated. The observed fact that women breathe more by the chest than by the abdomen is due to artificial compression, and to the altered form of the chest consequent on its early adoption.

I have recently received a most interesting monograph named "Pneumono-dynamics" from Dr. G. M. Garland, assistant in physiology in the medical department of Harvard University, in which a very complete and valuable series of experiments is detailed as to the physical conditions of the healthy pleuræ, both in animals and in the human subject. The preface is dated in December, 1877, and the book itself in 1878.

He commences by figuring the curved line of "*flatness*," as he terms the absence of resonance, over a pleuritic effusion. It forms, according to him and Damoiseau, "a parabola," which is highest in the axillary region, and which spreads out towards sternum and vertebral column, a small effusion being detected in the axillary line before it is perceptible anywhere else. To explain this curve he details some ingenious experiments in which fluid was injected into the pleural cavity of dogs, which by subsequent solidification should form a permanent cast of that cavity. He suspended the dogs perpendicularly by the head, and introduced a pear-shaped cannula into the pleural cavity, plunging it through the ninth or tenth intercostal space in the axillary line. He employed glue and plaster of Paris for the injections, and exercised great care to prevent the entrance of air with the fluid. Having allowed sufficient time for the solidification of the injection, the points of transition from resonance to "flatness" were carefully marked out. Cocoa butter was afterwards employed as a more suitable material, since it solidifies more slowly than the former composition. He subsequently devised a more general apparatus for testing the behaviour of elastic bodies in enclosed spaces, and showed the close analogy existing between a dog's lungs and these. Applying the principles thus obtained to the human lung, he indicates that the human lung is extremely elastic, that it is always stretched beyond the zero point of its elasticity, and that consequently there is a constant struggle between that and other opposing forces. If a pleuritic effusion be added, so long as it is suspended by the elasticity of the lung it certainly cannot compress it. On the contrary, it must exert a *negative pressure* or *traction*. Accordingly to Rokitansky, a normal lung is capable of contracting to one-eighth of its usual volume, so that compression does not begin until the effusion occupies at least seven-eighths of the thoracic cavity. He claims "to have overthrown the hypothesis, hitherto *universally* accepted, that the lung is compressed and driven away from the chest-wall by an encroaching exudation," and to have "substituted for that hypothesis the assertion that a fluid exudation exercises a negative pressure upon the lung by virtue of its weight." It will be seen, however, that my experiments, made early in 1877, and actually described in the autumn of that year, justify some slight modification as to the previous universality of the erroneous hypothesis. He further points out that an effusion can never compress a lung upward (1) until the retractility of that organ is exhausted, either by contraction or disease, and (2) until the effusion has a fixed point of support below, from which to operate. Compression of the lung is therefore impossible so long as the diaphragm is elevated into the thorax, unless that membrane is held up by adhesions, or by intra-abdominal pressure from tumours, gas, &c. It will be seen that this upward tension of the diaphragm had been already well appreciated by Mr. Le Gros Clark.

Space will not permit me to give fuller details of this valuable book. It will, perhaps, have been sufficient to point out how singularly confirmatory of each other are the observations independently made, and individually worked out, by Mr. Clark, Dr. Douglas Powell, Dr. Garland, and myself. Personally I have to thank those gentlemen for their extreme kindness and courtesy in giving me the opportunity of corroborating or correcting any views I may have arrived at, by the perusal of two memoirs marked alike by scientific method and by great practical importance.

Postscript.—A case has occurred in my wards at St. Thomas's Hospital, since the above was in print, which to some extent explains the very varying amounts of pleuritic tension observed. A middle-aged man, otherwise robust, was admitted with effusion in the left pleura of rapid occurrence. Within two days the side was full, the intercostal spaces were bulged out, the heart dislocated, and the mediastina pushed an inch and a half to the right. Although dyspnœa was not urgent, I tapped him at once. From three to four pints of hæmorrhagic fluid, apparently about half blood and half serum, were evacuated. The blood was evidently old, not arterial, and furnished only half the usual coagulum. On the advice of a colleague, who suspected malignant disease, I suspended the flow of fluid at the quantity above-named. The tension was positive, and supported twelve inches of water, being the highest I had hitherto found in the pleura. The lung re-expanded instantly and painlessly, a fact kindly substantiated for me by Dr. Harley. The patient remained in fair health for over two months, no signs of malignancy whatever developing themselves. At the end of this period I determined to tap again. This time, however, there was no positive tension, and a deep inspiration produced negative effects to the extent of two inches of water. The lung refused to expand, and the fluid ceased flowing after from two to three pints had been evacuated, even with the additional suction of three feet of tubing. The patient, who was an excellent workman, wished to resume work, and went out considering himself well. June 5th: I have had another opportunity of examining this patient. The fluid has once more accumulated, and the left side is as distended as it was at first. He proposes to re-enter the hospital at once. I was able to follow this case to its fatal termination, and though a post-mortem examination was forbidden, I entertain no doubt of its having been malignant disease of the lung.

THE ANTISEPTIC METHOD IN RELATION TO DRAINAGE OF THE PERITONEUM IN ABDOMINAL SURGERY.

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(Continued from p. 369.)

I HAVE already stated my theoretical position as regards drainage in antiseptic surgery of the peritoneum, and I will now give my practical experience. I must first state that I believe we are now able to say we can perform ovariotomy with perfect antiseptic precautions, in any case in which there has been no previous tapping, or in which tapping has been performed antiseptically. I now always tap with the spray, and as carefully as I perform any other surgical operation antiseptically, and since doing so I have never seen any cyst inflammation, as it was called; it should be

called admission of the causes of putrefaction into a cyst by tapping. In cases which have been tapped before they come to me, I never feel certain that I can perform aseptic ovariotomy, because the cyst may already contain the causes of putrefaction; and if this be so in a difficult case, with adhesions, we cannot be certain that some of the putrid material will not pass over portions of the wound or peritoneum without being rendered innocuous. The mere fact that the fluid is *not* offensive is no guarantee that it contains no causes of putrefaction, for I have found fluid full of active bacteria, yet without odour; moreover, when the spray is playing over everything, it is difficult to detect odour unless it be very powerful, and one cannot pause in an ovariotomy to examine the fluid microscopically. I have observed many facts which make it probable that the causes of putrefaction may be present in a cyst without the patient presenting the usual symptoms of cyst putridity, and without odour from the cyst contents. And yet, when exposed to the air, and brought in contact with fresh blood, serum, and wounded tissues, these latent causes of putrefaction become active. They are, in fact, dormant in the cyst. This is too difficult a subject to discuss in this paper, and I want more facts; but it is necessary I should mention it.

One word as to tapping. I believe it is not sufficiently recognised in the profession that this proceeding is one attended with considerable risk, especially in inexperienced hands. Antiseptics carefully employed remove, as I have said, the risk of so-called cyst inflammation, which is by no means an uncommon result without their use. Two other risks remain—1. The danger of hæmorrhage into the cyst from puncture of a vessel in its wall. 2. The danger of infection of the peritoneum by escape of some of the contents of a papilloma-bearing cyst into the peritoneum, either at the time of tapping, or afterwards from the puncture in the cyst wall remaining patent after the external opening has closed. Both these, I know, are very real dangers, even in the most experienced hands. The operation of tapping a cyst has always seemed to me a most unscientific one, for we puncture a highly vascular structure in the dark, and with no certainty of being able to avoid large vessels, however great our care, and if the cyst be non-adherent it may be quite impossible to secure a bleeding vessel without an incision through the parietes. I have seen ample evidence when performing ovariotomy after tapping that such hæmorrhages do occur, and I know that they are occasionally fatal. So long as ovariotomy was a very fatal operation, and tapping a *comparatively* safe one, it was necessary to tap. I now never advise the operation unless it is absolutely necessary to perfect diagnosis, or in cases of such great distension that it is well to relieve the heart, lungs, and kidneys a few days before performing ovariotomy. I am convinced that tapping should bear a much larger share of the general mortality following ovariotomy than it does at present. I have not lost a single uncomplicated case since I began antiseptic ovariotomy, and I believe a simple antiseptic ovariotomy is a safer operation than a cyst-tapping, and I am much inclined to think an antiseptic exploratory incision is a safer operation than an exploratory tapping. The imperfect aid to diagnosis given by the latter can afford no aid comparable to the perfect knowledge we obtain from the former.

To return to the question of drainage. Three points must be kept constantly before us while we rapidly run over the records of the eleven cases I have drained since commencing antiseptic ovariotomy.

1. The certainty of being able to perform aseptic ovariotomy in an untouched case.

2. The uncertainty in any case which has been previously tapped without antiseptic precautions.

3. The fever-inducing power of fluids effused from surgical wounds and confined in them; and, in the special cases under discussion, the possibility that these fluids may cause aseptic peritonitis.

I have now performed antiseptic ovariotomy ninety times; antiseptic abdominal section, for removal of uterine or other abdominal tumours, six times; and antiseptic exploratory abdominal section, without removal of tumour, six times. In all, 102 operations. I have drained in eleven of these cases (all ovariotomies), and three of the eleven have died. I will now give brief notes of each case, with my reasons for draining; and then refer to other cases in which I did not drain, in spite of their being most complicated operations.

CASE 1 (my third after commencing antiseptic ovariotomy).—Previously tapped without antiseptic precautions; spray failed before operation was half finished, and I went on without it. I dressed every twelve hours under the spray. At the first four dressings I drew off in all nine ounces of blood and serum, allowing for what was in the sponge and dressings. The fourth dressing only yielded an ounce of colourless serum. I intended to remove the tube at the next dressing, but found a decided increase in the discharge of pale-yellow serum. From this time the increase in quantity was rapid, till the dressings were soaked every twelve hours. On microscopic examination I found the serum full of lymph-corpuscles. From the morning of the second day, when the temperature was 99·6° F., it had been normal, and the patient was in all respects so well that I felt certain that the tube was keeping up irritation. I therefore removed it when it had been in seventy-two hours. No rise of temperature followed, and the pulse stood at 88. After withdrawing the tube my colleague, Mr. Doran, and myself could distinctly see the intestines, injected and red, but not adhering, rolling freely about in the abdominal cavity. On the morning of the fifth day (forty-eight hours since last dressing and removal of tube) I heard there was discharge, and found the dressings soaked with serum. The flow continued so freely till the ninth day that I used to turn the patient on her side and empty the peritoneum through the opening where the tube had been, of course under the spray. During this procedure air could be seen freely bubbling in and out, and yet there was never any sign of putrefaction, and the temperature, pulse, and general condition were quite normal. On the ninth day the opening closed, and, though for some days I could detect serum in the peritoneum in large quantity, there was no further discharge, and the patient got rapidly well, and went home nineteen days after the operation. She was a fair, delicate, strumous-looking girl of sixteen, and just the patient in whom one would not have been surprised at free suppuration in any ordinary surgical operation without antiseptics, and in the same way slight irritation from the tube set up chronic effusion of serum from the peritoneum. How different the result would have been if asepticity had not been maintained, and the intestines had been bathed with putrid serum.

I was so much struck with this case, and it seemed so confirmatory of my theoretical expectations, that I did not drain again till my ninety-ninth ovariotomy.

CASE 2.—A delicate, single woman, aged twenty-eight. Operation lasted an hour; extensive parietal, omental, and deep pelvic adhesions; pedicle very broad, requiring partial enucleation. Remarkably free serous oozing from all the peritoneal surfaces, the serum absolutely streaming away, caused me to put in a tube. The weather was bitterly cold, and the patient was phthisical. From the first she did badly; the pulse was never under 140, and soon reached 160; the temperature ran up on the first day to 104°, aconite and the ice-water cap both failing to check its rise. Lung symptoms rapidly came on, and she died, with the temperature at 108·4°, fifty-four hours after the operation. But little came from the tube till just at last, when serum began to pour away. The post-mortem examination, made for me by Mr. Doran, showed that the cause of death was double pleurisy with effusion, each pleura containing over a pint of clear serum, with no flakes of lymph. Traces of tubercle in right apex and visceral pleura. The intestines were matted by recent lymph, and the pelvic peritoneum, where the tube had been, was much injected and coated with lymph.

Death was evidently caused by the exposure and cold acting on a weak chest, and I have no doubt the change of dressings under the spray, when she was hot and perspiring, greatly increased the original evil. I think it is quite possible that without these chills the result might have been different. The tube did no good, probably caused the peritoneal condition noted above, and the procedure its presence necessitated hastened, if it did not actually cause, the fatal result. I had at this time not fully recovered the doubt as to the necessity for drainage into which I was thrown by the loss of a case I shall have again to refer to, and I was much impressed with the opinion then recently published by Dr. Keith, of Edinburgh.[1] The following are his own words:—"With antiseptic ovariotomy the drainage-tube will not be nearly so often required. I do not think it can be altogether dispensed with. No one has practised drainage so much as

[1] Results of Ovariotomy before and fter Antiseptics (Brit. Med. Journal, Oct. 19th, 1878).

I have, yet I know that it sometimes cannot be used without risk. Some patients simply give serum from the irritation of the tube; in others, after a short time, the tube becomes enclosed in thick lymph, and it sometimes gets choked with this. In such circumstances there must be a risk of some folds of intestine adhering at angles when the tube is removed. I have several times seen decided inconvenience arise from this, but never any fatal obstruction. With antiseptics the tube can be removed much earlier. Drainage is certainly a great trouble both to patient and attendant."

Thus, though convinced in my own mind that drainage had killed the patient in the case I have just recorded, I looked upon it as a case of choosing between two evils, and was blind for the time to my own success without its use.

CASE 3.—A delicate, single woman, aged thirty-four. Operated upon in the same bitterly cold weather just before Christmas. The operation was a very formidable one. A good deal of bloody serum came from the tube during the first six hours it was in, and after that practically nothing. At the end of twenty-four hours from the operation she had symptoms of left pleurisy. This was on the side most exposed to the spray during the dressing, and I at once removed the tube and closed the opening with the suture placed there for the purpose at the time of operation. No rise of temperature followed, the chest symptoms subsided, and she made an excellent recovery. This was my hundredth ovariotomy.

CASE 4.—I again used the tube in my 101st case, but only left it in forty-three hours, as little or nothing escaped after the first six. I closed the opening with the suture in this case also. The patient made a rapid recovery.

CASE 5.—The tube was in sixty-eight hours; after I withdrew it, I could not close the opening, as I had forgotten to insert a suture for the purpose. At the end of twelve hours I found some serous oozing, and therefore put in an india-rubber tube, deep enough to pass through the parietes. This remained in another forty-eight hours, when the wound was quite dry, and I removed it. The patient, a poor old blind woman, also recovered rapidly.

CASE 6.—I used in this case a curved tube, which was suggested by my colleague, Mr. Meredith, in order to have the opening higher up in the incision, and further from the pubes. This was also an unusually difficult case of double ovariotomy, and I was obliged to leave a certain amount of venous oozing deep in the pelvis, so I put in a tube. Finding, at the end of forty-eight hours, that the blood rather increased in quantity, and that the tube caused pain, I withdrew it, and closed the opening. The temperature steadily fell from this time, and the patient went home on the twenty-second day after operation.

(To be concluded.)

NOTE ON THE

SALICYLATE AND ALKALINE TREATMENT OF ACUTE RHEUMATISM,

WITH AN ANALYSIS OF 158 CASES.

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THERE are few diseases which have been treated by so many different methods as acute rheumatism. One drug after another has been vaunted as a specific, only to disappear and make room for a successor. The remarkable results which followed the introduction of salicin so strikingly directed the attention of the profession to this drug and its compounds that these have received a very extensive trial, especially in hospital practice, during the last three years; and the object of the following note is to compare the results which have attended this latest development of the treatment of rheumatism with two other methods most commonly used in the wards of the Middlesex Hospital immediately prior to its introduction.

The salicylate of soda, on account of its greater solubility, and for other reasons which need scarcely be mentioned here, has established its position as the favourite preparation; and our observations refer to it alone as representing the salicin group.

The conclusions which we have to offer for consideration now suffer necessarily from want of novelty, but they may not be uninteresting, as they corroborate in a marked manner many of the observations which have been previously made as to the results of the treatment in question.

In estimating the effect of any drug at the bedside, it is necessary, firstly, to review a fairly large number of cases, and, in the second place, to take care that those cases are placed under similar conditions. The results we have to show are those of an analysis of 158 typical cases of acute rheumatism treated in the Middlesex Hospital—60 by salicylate of soda, 60 by the old alkaline method, and 38 by a combination of alkalies with quinine. All of these cases, with the exception of the drug administered, were treated in a precisely similar manner, and influenced by the same surroundings.

The following are the points to which we have directed our inquiry, with a comparison of the results of the different systems of treatment.

Pyrexia.—The average duration of pyrexia in the cases treated by the salicylate of soda was found to be 5·7 days. In the cases treated by alkalies alone it was 10·3 days; and in those in which quinine was combined with the alkaline treatment it was 11·6 days. It will thus be seen that the first-named drug exhibited a marked superiority over the others. With regard to the influence of the quinine in the last-named group, it is not easy to see how this should have been unfavourable. Probably the smaller number of cases may render the observation of doubtful value, and the drug itself was not given in what would now be considered antipyretic doses.

Joint-affection.—The difference in result is no less, but rather more, marked under this head; for while the cases treated by the salicylate show an average of 5·06 days' duration, the averages for the treatment by alkalies, and by alkalies and quinine, respectively are 12·2 and 10·07.

Influence on the condition of the heart.—Looking to the power possessed by the salicylate of cutting short the pyrexia and joint affection, one would naturally expect that its influence would appear also in limiting the tendency to the occurrence of endocarditis and pericarditis. This, however, is not borne out by the results of our analysis. Of the cases treated by the salicylate 11·6 per cent. developed endo- or pericarditis under treatment, while the percentage in the case of the alkaline treatment was 6·6, and in the combined treatment 13·1. Too much stress must not be laid upon the comparison in regard to this point, for it must be borne in mind that nearly 70 per cent. of the cases in the first and second group, and over 50 per cent. of those in the third, have some heart complication developed before admission to the hospital, thus leaving a comparatively small number from which to draw any general conclusion. The great probability is that the influence of any method of treatment in averting the tendency to heart affection is very small indeed. It has been dogmatically asserted that pericarditis never supervenes after the system has been got thoroughly under the influence of the alkaline treatment; but this position is obviously untenable.

Relapse.—Hitherto there has been little but praise to bestow upon the salicylate treatment; but we now come upon unfavourable ground. In the cases treated by the salicylate there occurred relapses in 26·6 per cent.; in those treated by alkalies, and by alkalies and quinine, 8·3 and 7·8 per cent. respectively. The results here are very much against the salicylate treatment, and there is a universal concurrence of opinion on this point among all who have investigated the subject. It may be hoped that this undoubted tendency to relapse may be overcome after further experience, and to this end a gradual discontinuance of the use of the drug, together with a longer confinement to bed, and liquid diet, seem to hold out the most hopeful prospects.

Return of pain without pyrexia.—Here, too, the balance of evidence is rather against the salicylate; and it is only what we should expect, looking to the facts detailed in the previous section. Ten per cent. of the salicylate cases show return of pain, as against 6·6 per cent. of the alkaline and 18 per cent. of the alkaline and quinine combined. It should be remarked that the return of pain in the salicylate cases has generally taken place after the use of the drug has been discontinued, and the pain has been quickly relieved by a return to the remedy.

Stay in the hospital.—With regard to the stay in the hos-

pital, the alkaline treatment gives the most satisfactory results, the salicylate treatment next, and the combined alkaline and quinine the least favourable. So many disturbing elements, however, come in here in the way of complications, such as pleurisy, bronchitis, pneumonia, &c., that the value of the comparison on this head is but slight. Owing to the shorter duration of pyrexia and pain occurring in connexion with the salicylate treatment, convalescence becomes established much sooner than when the other methods of treatment have been employed; and were it not for the dangers of relapse these cases might be discharged at a much earlier period. With the discovery of some modification in the plan of treatment which should obviate this risk, a notable improvement may be looked for here.

In conclusion, we would remark that cases occasionally occur which seem to be quite insusceptible to the action of salicin or its compounds; while, on the other hand, a few so speedily show its toxic effects (such as giddiness, sickness, headache, and delirium) that its use has to be abandoned before it has had time to influence the rheumatism.

For purposes of easy comparison we append a summary of the results arrived at in a tabular form. It should be noted that the usual dose of salicylate of soda was fifteen grains every three hours; of the alkalies, fifteen grains of the bicarbonate of potash, with a like quantity of the acetate, every four or six hours; and of quinine, where this was regularly given, two to five grains in pill, thrice daily.

No. of cases.	Treatment.	Average duration of pyrexia.	Average duration of joint affection.	Signs of endocarditis or pericarditis present on admission.	Signs of endocarditis or pericarditis developed under treatment.	No signs of endocarditis or pericarditis present at any time.	Relapses.	Return of pain without pyrexia.	Average duration of stay in hospital.
60	Salicylate of soda.	5·7 days.	5·06 days.	41 cases, or 68·3 per cent.	7 cases, or 11·6 per cent.	12 cases, or 20 per cent.	16 cases, or 26·6 per cent.	6 cases, or 10 per cent.	29·7 days.
60	Alkaline.	10·3 days.	12·2 days.	41 cases, or 68·3 per cent.	4 cases, or 6·6 per cent.	15 cases, or 25 per cent.	5 cases, or 8·3 per cent.	4 cases, or 6·6 per cent.	27·7 days.
38	Alkaline with quinine.	11·6 days.	10·07 days.	20 cases, or 52·6 per cent.	5 cases, or 13·1 per cent.	13 cases, or 34 per cent.	3 cases, or 7·8 per cent.	7 cases, or 18 per cent.	31·1 days.

CASE OF COMPLETE REMOVAL OF THE SCALP FROM INJURY.

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THERE is a case now in Holland Ward of the Westminster Hospital, of a girl, aged fourteen, who has received a somewhat peculiar injury. Her hair was caught by the revolving shaft of a steam engine, used for working a number of sewing machines, with the result of tearing off the whole of the scalp. The accident occurred on the 12th of August, and the appearance which she presented on admission was as follows:—A triangular portion of the skin of the forehead was hanging over the face, the apex of the triangle containing short hair from which long hair had evidently been forcibly torn. Both ears, detached except below, were hanging down the neck, the right pinna being entire, but the upper half of the left pinna having disappeared. The further tear through the skin had extended backwards and downwards in ragged lines from the upper part of the right ear and from the middle of the left, to meet over the seventh cervical vertebra; the whole of the head and back of the neck being completely denuded of skin.

One of the temporal arteries only required ligature. The scalp was sent to the hospital immediately after the patient, and was cleansed and, minus the hair, carefully reapplied by the house-surgeon, but it was dead. The hanging ears and skin of the forehead were, however, successfully restored to their proper position.

The removed parts consisted of the skin and occipito-frontalis and half the left ear, and were almost completely torn across the middle and slightly also in the longitudinal direction. The periosteum was left, but much of it subsequently sloughed.

The patient has had no bad symptom and no pain. The shock of the injury was very slight, but the heart was very feeble for the first five days. There are three small circular patches of exposed bone, but most of the bone is granulating well. The wound was dressed, first with carbolised oil, and, since its surface has been cleaner, with vaseline on lint. An attempt is now being made to promote cicatrisation by skin-grafting.

George-street, Hanover-square.

ON THE

HYGIENIC AND THERAPEUTIC INFLUENCE OF HABITS AND CHARACTER IN THE MEDICAL PROFESSION.[1]

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THE subject upon which I propose to make a few observations has most probably been reviewed again and again in the minds of many medical men. It has not, however, as far as I am aware, received that amount of attention which it appears to me to deserve.

I shall take for granted at the outset that anything which on the one hand tends to the prevention, diminution, or cure of disease, or on the other favours its development or retards restoration to health, comes legitimately within the domain of medicine, and therefore demands the earnest consideration of those engaged in the practice of it.

It is self-evident that, in common with every member of the human race, a medical man, apart from his profession, exerts some kind of influence over those with whom he comes in contact. And the amount of influence one individual is capable of exercising over another varies infinitely according to the particular combination of habits and types of character. The courageous, humane, and high-principled general imbues his soldiers with a spirit of fortitude, humanity, and uprightness; and as certainly do timidity, cruelty, and immorality in the leader of an army tend to the inefficiency and demoralisation of his troops. Does not history teach us, and have we not numerous instances constantly occurring amongst us of the power one man possesses, either in word or deed, or both, of inducing others to act as he wishes and advises, although their views are not precisely in accordance with his own? Without further preface, I will at once proceed to consider the special influence of medical men, which may be conveniently regarded as of a twofold nature—social and professional.

With regard to its *social* aspect, it must be borne in mind that medical men are the recognised custodians of the public health. Speaking generally, it is admitted that they know what will produce disease, and what will prevent it. But further, independently of his professional knowledge, there is no one more capable of exercising so much influence on the lives of others as a medical man. He is entreated to enter where no one else would be tolerated for a moment.

[1] Read before the Leeds and West Riding Medico-Chirurgical Society.

In many instances he is made the confidant of the family, and he sees more of the petty crosses and annoyances of his fellow-creatures, their causes and results, than any other member of the community.

Important as this social aspect of the question appears to be, it is almost insignificant when compared with what I have termed provisionally its *professional* aspect, and which is embodied in the following proposition:—That although every medical man generally undergoes similar training, and for the most part acknowledges the truth of certain facts concerning the preservation of health and cure of disease, his actual mode of practice is moulded and regulated to a considerable extent by his habits and character.

It requires but little argument to prove that every man is distinguished from his fellows by some innate peculiarities of mind or body or both. And these may justly be regarded as the germs from which the future character is developed. As it is possible for the germination of the ovule, the nutrition and growth of the young plant, to take place under conditions which may materially alter the original properties of the seed, so, by judicious management during infancy and childhood, it is possible to modify the congenital tendencies of character. But once adolescence is attained, in by far the majority of cases a ruling principle has become indelibly stamped upon the constitution, and habits initiated in childhood, persevered in through youth to manhood, are almost inseparably connected with every thought, word, and deed.

Whatever be the rank, employment, or profession, we shall find that the manner of transacting business, or following an occupation, whatever it be, is directed by that ruling principle which we call character, and modified to a greater or less extent by those habitual actions, many of which become, after frequent repetition, almost involuntary. If this be so, is it not worth while inquiring how far it can possibly affect medical men in the practice of their profession?

Firstly, perhaps, it will not be out of place briefly to direct attention to what may be reasonably designated as "medical fashions." Apart from hyper-depletion and hyper-stimulation, each of which has had its day, do we not observe fashion in other methods of treatment? One drug after another appears to fascinate the professional mind, and although a particular remedy may be extremely valuable in certain cases, the tendency is to make a much too general and indiscriminate use of it. It is not at all improbable that the robust, and those who indulged immoderately in luxuries, profited by the method of depletion practised a century ago. But the *habit* of bleeding, &c., was so general (just as the *habit* of condemning bleeding is so general in the present day) that possibly the innocent sometimes suffered with the guilty, and the delicate and abstemious were mulcted in a fine of a few pounds of blood, and, as a natural consequence, a few weeks, months, or years of earthly existence. And so, indeed, it is with certain powerful remedies in the present day. Although of undoubted efficacy in carefully selected cases, their too frequent or incautious administration has, within the knowledge of most of us, led to dangerous, if not fatal, results.

But, secondly, it will be found, on careful examination, that the habits and character of each individual member of the medical profession have a tendency to develop a particular style of practice. Considering the numerous phases of character which must of necessity exist amongst the medical portion of the community, it will not be possible to do more than glance briefly at some of the most striking ones. For the sake of example let the following be the correct delineation of an imaginary character.

A. B——, aged forty, in country practice, is a fine, active, powerful, well-developed man, and the father of numerous healthy children; has always had good health, lived without stint, but perfectly temperate withal, accustomed to plenty of exercise, a bold horseman, and fond of field sports generally. He is an honest, good-tempered, jovial fellow, but somewhat deficient in feeling. His profession is quite secondary to his love of country life, hence it is extremely probable that he never allows himself to be puzzled over a case, and one of an unusual character would not induce him to make any vigorous intellectual attempts to unravel it. Now, this man's character is a type of activity; he is bold and courageous, and whatever he does is done quickly and with little or no hesitation. In the treatment of disease he is decided, fearless, and as a rule fond of a remedy which produces a substantial if not visible effect. As far as hygiene is concerned, he doubtless tells his patients to live well, take plenty of exercise, and generally to cast care and trouble to the winds.

But let us take another example. C. D——, aged forty years, practising in town, of rather spare build, delicate appearance, and nervous temperament. He is clever, scientific, very fond of metaphysical speculations, but lethargic and inactive. He generally drives, and takes but little or rarely any other exercise. His manner is quiet, timid, and unostentatious, and he is scrupulously temperate in eating and drinking. He is strictly conscientious, but too susceptible to criticism, and therefore vacillating and undecided. The leading features in such a man's character are inactivity and indecision, arising from an abnormal development of the intellectual and emotional centres, to the manifest disadvantage of the volitional ones. In treating disease he will probably give small doses, and often change his remedies. He will be cautious, and, on account of his timidity and want of determination, is prevented from recognising the undoubted efficacy of the timely use of powerful remedies. And so, in giving instructions for the preservation of health, his client is so overwhelmed with cautions and contingencies which might arise that he is quite at a loss to discover how to avoid Scylla without being engulphed in Charybdis.

The imperfect sketches of character I have drawn are illustrations of two almost diametrically opposite types, which must of necessity have a strong *tendency*, at any rate, to produce great dissimilarity of action. And so it will be found that almost every type of character, or combination of types, has a *tendency* to initiate a particular kind of action, or action varied in a particular manner. Moreover, in all cases, the type is modified by the habits of each individual. Examples might be given *ad infinitum*, but I shall only mention one or two for the sake of illustration.

Bearing in mind the number of medical men in existence, and the amount and intensity of influence each one possesses in his own circle, we may notice—

Firstly, *Influence of drinking habits.*—It has been said more than once that an intemperate doctor is often endowed with extraordinary abilities. In some instances patients undoubtedly insist on consulting a man who is for the most part positively incapable of giving any really sound advice. The cause of this fascination may be not unfrequently traced to the fact that he who uses alcohol liberally usually prescribes it regardless of *definite* quantity, to the infinite satisfaction of the patient. If such a man were requested to frame a code of hygienic laws, he would probably issue some very indefinite rules about the consumption of alcohol, perhaps altogether omit any mention of it, or advocate its free and liberal use. Let us for a moment imagine the influence of a medical man of undoubted ability, and at the same time benevolent, wealthy, and generous, but too fond of alcohol, and ask ourselves if an ethological combination of this description has not a strong *tendency* to sow broadcast the seeds of disease. On the other hand, if the same character, *cæteris paribus*, happened to be a total abstainer, surely it is not illogical to conclude that he must of necessity be the means of preventing much disease. And here I would observe that some medical men are so enthralled by the fixed idea (for it can be nothing else) that alcohol is bad at all times and under all circumstances, that they absolutely refuse to acknowledge its power as a therapeutic agent at all. Whilst fully recognising the amount of misery and disease which is caused by an excessive use of alcoholic beverages, surely it is totally irrational, and altogether unworthy of the progressive science of medicine, to deny the great value of their judicious and opportune administration.

Secondly, *Influence of immoral habits.* On careful and impartial examination I believe it will be found that immorality in a medical man assists in the extension, if not in the production, of much disease. A dissolute man is scarcely likely to insist very strongly upon the necessity of leading a strictly moral life, or to dilate on the amount of disease as a probable and very frequent result of immorality. He very often argues that appetites are implanted in man for a purpose, and therefore they must be gratified.

In making the following remarks I should wish it to be very clearly understood that I do not presume nor do I feel myself justified or competent to mention them in a censorious spirit, but purely as bearing on etiology. During my student life I well remember hearing remarks and allusions, perhaps uttered unconsciously, from some of our teachers, which had a tendency to promote rather than dis-

courage immorality in their pupils. But further I believe I am correct in stating that occasional acts of immorality have sometimes been recommended as the best means of averting or curing certain diseases. This may be a doubtful question, but I venture to think that such advice should never pass the lips, no, nor even seriously engage the thoughts, of one whose grand professed object in life is not only to cure disease or mitigate the pain and suffering attendant upon it, but to exert himself to the utmost to prevent its origin and development.

Numerous other varieties of character associated with special habits might be mentioned, each having a *tendency* to produce its own peculiar modifications of practice. There is, however, one other type which claims our special attention at the present time. It differs very materially from any other, and has of late years attracted not only the attention of the public generally, but indecorously and indecently forced itself into the ranks of the medical profession—of course I refer to the so-called "medical woman." Now the essence of the difference between the mind of man and woman probably springs in great measure from peculiar bodily conformation. In a normal woman the sensations connected with the organs of generation (especially if we include the mammary glands), are perhaps more voluminous, if not more intense, than in the opposite sex. Is it not possible that the actual nervous supply to the generative organs—i.e., the *number* of nerve-fibres and quantity of nerve-tissue generally—is greater in the woman than in the man? or if this be not so, may not the female sexual organs possibly have more numerous and complete communications with other parts of the body? If either hypothesis be correct, it is only rational to infer that of the threefold division of mind common to both sexes, feeling and emotion should predominate in the woman. Sexual feeling, although of different intensity in different cases, perhaps has a greater influence over the life of an individual than any other single sensation; and this idea is supported by the peculiarity of the natural feminine mind. The woman has less control over her feelings than the man, and, as a rule, to which there are many exceptions, her actions are more liable to be influenced by them than in the opposite sex. As a common result of this deficient volition we have outbursts of the hydra-headed hysteria, which I cannot but believe is well-named, notwithstanding that of late years it has been somewhat the fashion to deny its frequent connexion with the uterus, or other portions of the sexual apparatus. For this reason, and many other well-known and excellent ones, the medical profession (I wish I could say unanimously) refuse to acknowledge the propriety and decency of a woman practising medicine. Without making too sweeping an assertion, I believe that medical women, if they became general, would have a *strong tendency* to increase immorality, and therefore disease. At present, as I trust they ever will remain, they are merely physiological curiosities, or mental monstrosities; but if they are encouraged by such an influential body of men as the Senate of the London University, it is possible the result may be disastrous. For my own part, had I the misfortune to meet one of these mental deformities, I should hesitate, aye, or even refuse, to acknowledge appropriately in such a person the presence of that elegant, graceful, delightful companion, so beautifully described in her primitive innocence as—

> "The fairest of creation, last and best
> Of all God's works, creature in whom excelled
> Whatever can to sight or thought be formed
> Holy, divine, good, amiable, or sweet."

And now I would ask, Is there any reality in the few remarks I have presumed to make, or are they only vagaries of my imagination? Are we not sensible, at any rate some of us (if we are only honest and dare to criticise our conduct impartially), of the existence of some trait in our character or habit of life which has a *tendency* to make us act in some particular manner, not exactly in accordance with the teachings of science? Supposing these questions to be answered, as I think they must be, in the affirmative, it is only natural to ask, *Cui bono?* Is it possible to alter this condition of things? It may be urged that the influence is universal, and everyone knows it and expects it. In the nature of things it must remain so, and it is useless to think that any change can be effected. Surely if there be substantial evidence of the existence of some influence which undoubtedly encourages the development of disease, its universal prevalence is but a meagre reason for not endeavouring to struggle against it. What can be done? Without pretending, in the slightest degree, to exhaust the question, I beg to offer the following suggestions.

1. That a knowledge of moral philosophy, including ethology or the science of character, should be cultivated by all those engaged in the practice of medicine. In this manner it is probable that the actions and reactions of body and mind would attract more attention, and the reality of a state of mind in one individual having a *tendency* to produce a similar state of mind in others with corresponding similarity of action could not fail to be recognised and duly appreciated. It appears to me that a medical man should be competent (and this he cannot be unless he really studies character) to advise the parent or guardian of a child who has some markedly prominent peculiarity of character or vicious habit, as to the particular course of action best calculated to diminish the defect of character or eradicate the habit. It is quite as important to lay down special rules for the management of a particular character as it is to treat the child judiciously who is subject to convulsions, or the young person whose system is unable to bear with equanimity the commotion sometimes produced throughout the body and mind by the sudden transition from childhood to puberty.

2. That all medical men should endeavour to realise the existence of the above-mentioned influence, and thus make allowance for it in practice.

3. That knowing how powerful their influence is, they should endeavour to lead as nearly as possible model lives—i.e., lives which will not only *bear* but *court* imitation.

I will explain briefly what I mean by "model lives." In each individual member of the human species there is an almost irresistible tendency to imitate the action of others. To this we are indebted for the greater part of our knowledge during early life. Are not those parents wilfully blind or wofully unobservant who do not see their own imperfections of body and mind as it were stereotyped in those of their children? As age advances the tendency to imitate is checked by the development of volition and intelligence. It is a trite old saying, but nevertheless one well worthy of constant repetition, "Example is better than precept," and it comes home with special force to those who profess to wage a continuous warfare with disease and its various causes. Are we perpetually insisting on the necessity of an abundant supply of pure air and water? Do we think it advisable to caution our patients against an improper quantity or quality of food or any irregularities connected with the appetites? Do we believe there is any hygienic virtue in early retirement to rest, early rising, cold bathing, and scrupulous cleanliness? Have we thoroughly grasped the importance of judicious and well-regulated exercise both for body and mind? If so, then it would be well to prove by our actions that with us, as medical men, these matters are not merely passing thoughts, or undigested fragments of formal advice, but positive realities of our own everyday life, and thus, independently of a strictly moral life, the value of which cannot be over-estimated, we should, I venture to think, not only *deservedly bear*, but *universally court*, imitation.

Although, as I have previously observed, the substance of this communication must at different times have occupied the minds of many of my professional brethren, the amount of influence exercised in this manner has never been gauged, and, on account of its universal prevalence has escaped, or rather has not attracted, special attention. I venture to believe that its recognition and proper appreciation can scarcely fail to be instrumental, if only to a very small extent, in reducing the amount of disease, and in giving rise to a more scientific treatment of it.

SARCOMATOUS GROWTH IN THE ABDOMEN, INVOLVING THE RIGHT KIDNEY.

BY G. F. ELLIOTT, M.D., T.C.D.,
PHYSICIAN TO THE HULL GENERAL INFIRMARY.

G. B——, aged thirty-nine, the subject of the present notice, first came under my care in April, 1878, when he was admitted into the Hull Infirmary suffering from phlebitis in the right leg. Shortly after his admission I accidentally noticed a tumour in the epigastric region, which at that time simulated in a remarkable manner a simple en-

largement of the liver. The patient was quite surprised when I called his attention to it, and said he had not the least idea that there was anything unusual in the position indicated; all his complaint was referred to the leg.

When the pain and swelling in the limb subsided he was discharged, and I saw no more of him until last December, when he returned to hospital, the tumour in the meantime having much increased in size. Influenced by my recollection of the relations of the tumour when first discovered, I for some time continued to look upon it as hepatic, but subsequently changed my opinion, partly on account of the great size it was attaining and the surface having become uneven, and partly on account of the enormous enlargement of the superficial abdominal veins, indicating an amount of obstruction in the vena cava such as is rarely found in hepatic disease. From first to last there were no symptoms present save the inconvenience produced by the bulk of the growth, and the patient's slow but progressive wasting and debility. Epileptic seizures set in a few hours before his death, which took place a little more than twelve months after the tumour was first noticed.

Post-mortem examination.—Body much emaciated. When the abdomen was opened an enormous tumour, nodulated on the surface, was seen to fill the greater part of the abdominal cavity; viewed before being disturbed it was seen to pass up under the ribs (pushing up the liver) and down into the pelvis on the right side. It extended across the spine, and only left intestine visible at the inferior portion of the abdomen on the left side. Though closely in contact both with the liver and stomach, it was not adherent to either, but was extensively attached to the intestines. Notwithstanding every care it was found impossible to remove it entire; pressure of the fingers sufficient to separate the adhesions caused its walls to give way in several places, and at least four pints of a fluid resembling diffluent brain-matter mixed with blood flowed from it. The mass, in which the right kidney had completely disappeared, was found to be adherent to the spine by a broad pedicle, which extended along the bodies of the first four lumbar vertebræ. The body of the first lumbar vertebra was deeply eroded. The abdominal portion of the aorta was adherent to the tumour for the greater part of its course, and the vena cava was completely incorporated with it. There were no secondary deposits in other organs. The remaining kidney was healthy, and at least double the average size. The brain was generally hyperæmic, with a small patch of recent lymph-like deposit at the posterior extremity of the left hemisphere, and some opacity of the membranes at the base.

Remarks.—Malignant growths involving the kidney often run, as is well known, a lengthened course, and may also be present, as in this case, without any symptoms beyond the presence of a tumour in the abdomen; but the present example is more or less remarkable for the following facts connected with it:—1. The great size of the tumour. Could it have been removed entire, I have no doubt it would have weighed at least fifteen pounds. 2. Although there was deep erosion of one of the vertebræ, no pain was at any time complained of. 3. Although the vena cava was completely blocked, there was no œdema of the lower extremities. This, I think, may be explained by supposing that the presence of the superincumbent mass on the aorta caused but a limited supply of blood to reach the lower extremities, and for the return of this the greatly enlarged abdominal veins were sufficient. 4. The position of the tumour when first noticed. This showed, I think, notwithstanding the complete way in which the kidney was involved, that the growth originated not in the latter organ, but in the connective and subserous tissues in front of the spine. This view is also borne out by the histology of the growth. I am indebted to my colleague, Mr. Thompson, for the preparation of some sections, which show unquestionably that it was a round-celled sarcoma. Primary growths of this nature, having their origin in the kidney, are, I believe, rare, and when they do occur are of a comparatively limited size.

Hull.

VACCINATION GRANTS.—Mr. C. Ashenden of Hastings, Mr. E. W. Parkinson of Royston, Mr. C. E. Walker of Chesterton, Dr. W. Easley of March, Dr. F. S. Gramshaw of Stillington, and Mr. A. Megget of Scarborough, have received Government grants for efficient vaccination.

A METHOD FOR CONTROLLING HÆMORRHAGE DURING AMPUTATION AT THE HIP-JOINT.

Reported by

R. PURDIE, M.B., C.M.,
RESIDENT SURGEON, EDINBURGH ROYAL INFIRMARY.

THE following might be found useful as a method for controlling hæmorrhage during operation at the hip-joint. It was lately employed by Mr. Spence with complete success.

The patient was admitted into the Royal Infirmary in a very weak and debilitated condition, the history being that two years previously he had suffered from scarlet fever, and that during his convalescence he had neglected proper precautions against cold, &c. Abscesses formed at the hip, the leg became quite useless, and his health gradually became more impaired. During his journey here erysipelas of a phlegmonous nature developed itself, lasting for some weeks, and leaving the whole leg a swollen, œdematous, deformed mass, with sinuses leading down to the joint, which was in a state of firm fibrous anchylosis.

Mr. Spence, though unwilling to perform any operation, owing to the patient's condition, yet, considering it was his only chance for life, resolved to amputate, using the following method, in order the more completely to control the hæmorrhage. The sinuses which were at the outer side of the limb were connected by an incision. The head of the femur was cut down upon, and, with difficulty, owing to the anchylosis which had taken place, was excised. The thigh was then transfixed by a long sharp-pointed steel skewer, three-eighths of an inch in breadth, the point entering at the incision which had just been made, and then taking the course which the knife usually takes in transfixion for the anterior flap. A firm indiarubber band was then twisted tightly round the skewer, including the anterior part of the thigh, much after the method in which vessels are secured by acupressure. Another band was twisted round posteriorly, thus securing the posterior vessels. The operation was then completed by cutting the anterior and posterior flaps. After the vessels were secured the bands were loosened, the skewer removed, and the flaps stitched and dressed. During the excision a small quantity of blood was lost, but during the after-part of the operation scarcely a drop.

Mr. Spence remarked to the students after the operation that this method was most advantageous in cases such as the preceding, where a comparatively firm anchylosis had taken place, or in cases where the shaft has become separated at the trochanters by diseased action, great difficulty being found in removing the head of the femur, and the operation thus prolonged. In cases where none of these difficulties are met with, this method is not so necessary, as the leg can be removed with great rapidity, and the vessels grasped in the hand after the flaps are cut, so that no great amount of blood need be lost, the rapidity of the operation diminishing also the amount of shock.

Edinburgh.

CASE OF BOTHRIOCEPHALUS LATUS.

BY TOM ROBINSON, L.R.C.P. LOND., &c.

A GIRL, aged twelve, the child of English parents, and living at Shadwell, was brought to me in November last, as a sufferer from tapeworm. I treated my patient by first emptying the alimentary canal by means of a brisk saline purge and a fluid diet, and then administered two drachms of the Areka or Areca nut (the Areca, catechu, or betel-nut tree) in powder, in the early morning fasting. One hour afterwards my patient passed, with much straining, and rolled up into a ball, a mass which was brought to me. On examination, the worm was found to have the marked features of bothriocephalus, as described by Owen and Carter Blake (Tænia lata, figured in Baillie's "Fasciculi"). I took some trouble to examine the segments, and found those divisions next the head had each a distinct sexual apparatus

and a water-vascular system, but in the lower segments these appeared to be absent.

The interest attached to this case is in the kind of worm passed by an English girl. I have had many opportunities of examining tapeworms, but only in this case have I found a bothriocephalus latus. The distribution of these parasites appears to be governed by laws which have yet to be explained. There are distinct geographical limits to their distribution; for if a line is taken to correspond roughly with the line of the Vistula, to the east of this you will find the population suffering from bothriocephali, the worms associated with eating underdone pork. Yet the Spaniards eat much pork, and have tænia solium. Again, if you imagine a line dividing the Atlantic from north to south, and intersected by "Mason and Dixon's line," to the north and west of this the inhabitants have, with but few exceptions, the tænia solium. But in Central America and Mexico, we meet again with the bothriocephalus latus. The tænia mediocanellata is found chiefly in Guinea. It is interesting anthropologically to reflect on these facts, and it would appear to be probable that mankind differs in the forms of its parasites, as much as the soil differs in the growths of its flowers or its weeds. It is indeed a curious statement that, in spite of the mixture of races, in spite of free intercourse, free marriage, and, if you like, free trade, we find nations with distinctive tracts affected with distinctive parasites. The explanation does not lie with the animal, as the pig of Russia is in no way different from the pig of this country, but it appears as if there were a special adaptability for the growth of particular parasites in particular nations. In my patient the kind of worm probably resulted from her residence, which, being near the docks, would be much frequented by Russian and other sailors, and we can imagine an exceptional case arising, as this one did, from the drinking of water which contained the ova of bothriocephali.

Guildford-street, W.C.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

INVERSION OF THE VAGINA AND PROLAPSUS UTERI FROM SUDDEN EFFORT.

(Under the care of Dr. WILTSHIRE.)

FOR the following notes we are indebted to Mr. Lovell, M.R.C.S., obstetric house-surgeon.

C. M——, aged twenty-six, a housemaid, married two years, having one child nine months ago, which she suckled for five months, was admitted on Dec. 31st, 1878. She was florid and well-nourished; the bowels were confined, and defecation was painful; micturition was difficult, and she had leucorrhœa. She stated that her womb came down outside, and that it had done so for a week or two—in fact, more or less so ever since lifting a heavy box down a staircase about three weeks before, when she "felt something suddenly drop." The parts afterwards gradually came outside, and when she was seen hung between the legs.

On examination, the vagina was almost completely inverted. Anteriorly, the vesico-vaginal wall bulged considerably, forming a tumour, which fluctuated from urine contained in the bladder. Posteriorly there was a proctocele, but it was less complete than the cystocele. The cervix uteri around the os for a radius of nearly an inch was the seat of granular erosion, the so-called "ulceration." The uterine cavity measured three inches and a half, the supra-vaginal portion of the cervix being the chief seat of elongation. Nearly the whole of the uterus lay below the rima pudendi. The perineum was a fairly good one. The parts were easily restored, and a small flexible ring pessary was inserted, which kept them up nicely. Ordered to take one ounce and a half of compound decoction of aloes every morning if necessary.

On Jan. 3rd, 1879, she presented herself again, and said that the instrument kept the parts up well, and that she was quite comfortable; the bowels were loose, and defecation was painless; there was no difficulty in micturition. A week later she felt quite well, and had no discharge.

Remarks by Dr. WILTSHIRE.—The sound was passed into the bladder, and it was demonstrated that the fluctuating tumour seen anteriorly was a vaginal cystocele. Attention was called to the fact that the bladder, as the end of the sound showed, ran down the cervix uteri to a point close to the os; and that excision of the cervix should never be undertaken in such cases, owing to the risk of opening the bladder, and even the peritoneal cavity. Replacement and mechanical support were all that was necessary; and it was found that, if properly managed, many of these cases recovered perfectly. The youth of the patient was also pointed out. Inversion of the vagina is much more commonly met with in elderly women, especially laundresses, in whom it results from constant effort, whereas in the patient it arose from sudden and rather violent strain. The granular erosion rapidly heals if the parts are restored to their proper position, as it did in this instance. When the patient was seen on Jan. 21st, the erosion had entirely disappeared. Treatment by caustics is objectionable.

COVENTRY AND WARWICKSHIRE HOSPITAL.

CANCER OF ŒSOPHAGUS; GASTROSTOMY; DEATH EIGHT DAYS AFTER.

(Under the care of Mr. MILNER MOORE.)

THE following is another addition to the growing list of cases of gastrostomy. The operation in this case was not, in the strictest sense of the word, successful; nor was it ever expected that it could be. It was done primarily with the view of relieving pain, though the hope and probability of prolonging life somewhat were not forgotten. It did relieve pain, so that three days afterwards the patient expressed his thankfulness that the operation had been done. The appearances of the morbid growth and of the adjacent viscera sufficiently showed that in any case life was only a matter of hours, at most of days. The necropsy in this, as in so many other instances of carcinoma of the œsophagus, proved that extensive ravages had been made before the performance of the operation. The point on which surgeons now profess themselves at variance is, whether this experience warrants earlier interference or abandonment of the operation in such cases altogether. We are decidedly in favour of the former course, and venture the assertion that an impartial investigation of all the records will support this conclusion.

J. C——, forty-five years of age, was admitted on April 22nd, 1879, suffering from all the symptoms of organic stricture of the œsophagus. He had always been in fair health, although a confirmed drinker, until the beginning of February, when he began to experience a gnawing, aching pain at a spot he pointed out, which corresponded with the edge of the lower third of the sternum, and at the same time his food regurgitated within two minutes of being taken. Occasionally he had passed stools tinged with blood, and at times a little blood-stained fluid came back with the rejected food. He had never had syphilis; his mother and father died at moderate ages, and there was no history of cancer in the family.

On admission he presented a miserable appearance; he was well nourished and had a florid complexion, but his countenance showed great anxiety. There was incessant restlessness and discomfort. The pulse was slow and feeble, and he could retain nothing for more than one minute after swallowing. He complained much of the pain at the sternum, and of great debility. The heart and lung sounds were normal; the liver was found to be enlarged; the urine free from albumen. Mr. Moore passed a long No. 12 elastic catheter with great caution to within two or three inches of the stomach, and found that the instrument would travel no further without undue force. A little milk was injected through the tube, and this immediately returned, mixed with blood and a brownish fluid, which was examined under

the microscope, and found to contain large and highly organised cells.

The patient was ordered to have nothing but ice by the mouth, and to be nourished with enemata of beef-tea, egg, and brandy. This treatment was pursued for five days, when the enemata began to be rejected. It was then pointed out to him that he had a cancerous growth obstructing the passage of food into the stomach, and that sooner or later he must die from the effects of the disease, but that an operation for passing food into his stomach might be performed, which would relieve the gnawings of hunger and perhaps prolong his life.

After this he left the hospital; but sent for Mr. Moore again on May 3rd, and begged of him to perform the operation. He was therefore, readmitted at 10 A.M. on May 4th, and had an ounce of beef-tea, milk, two eggs, and an ounce and a half of brandy. Condition at noon: Pulse 106, very weak; he regurgitated small quantities of blood and mucus; pain very great over seat of stricture; temperature 97°; tongue dry and red. Mr. Moore performed gastrostomy at 1.15 P.M., the patient being chloroformed, following the directions given by Mr. Erichsen as to incisions; but when the peritoneum was reached only omentum could be found, so the wound was prolonged upwards, and, after some difficulty, the stomach was caught, made fast with catgut ligatures to the edges of the wound and opened, when pretty free bleeding occurred. A catheter was passed into the stomach, and two ounces of milk with a little brandy were injected. A plug of wood covered with carbolised oil lint was then placed in the aperture, and retained by a strip of plaster. At 3.45 P.M. a hypodermic injection of one-third of a grain of morphia; 4.30, two ounces of milk were injected into the stomach; 6 P.M., a nutrient enema. At 11.45 P.M. patient felt comfortable; pulse 124; temperature 97°; a little sanguineous oozing from the wound. He slept fairly, and next morning (5th) there was no pain about the wound, which looked healthy. Morning temperature 96·8°; pulse 122. Evening temperature 99°; pulse 112. Four ounces of milk with a little brandy were given at 10 A.M., 4.45 P.M., and 10 P.M. Nutrient enemata at 3.30 A.M. and noon, the latter being only partially retained.

On the 6th he had had another good night's rest, and felt easier altogether. Pulse stronger, 110; temperature 98·2°. Five ounces of milk and brandy put into stomach at 10 A.M., 2 P.M., 6 P.M., and 10 P.M. Nutritive enema at 4 A.M.

On the 7th he said he was very glad the operation had been performed, as it had given him comfort all over the stomach. Pulse 110. As there was considerable regurgitation of blood by the mouth, of which he complained greatly, seven drops of solution of perchloride of iron was given in a teaspoonful of water thrice daily. Food as before, and one nutritive enema.

On the 8th, when the plug was removed, a considerable flow of a brownish liquid escaped. He had not regurgitated any more blood. The iron was discontinued. Pulse 136; temperature 98·5°. Food and enema as before. Bowels open rather freely.

On the 9th he was much the same in the morning; at night a change for the worse occurred, and there was much pain at the seat of stricture. Temperature 102°; pulse 156. Food and enema as before.

On the 10th he felt better. Pulse 124. Morning temperature 97°; evening temperature 97·5°.

On the 11th he had a very good night. Temperature 101°. At 10 A.M., after an injection of one syringeful of milk, he complained of pain up the left side as far as the shoulder. At noon the stomach would only retain three ounces of milk. At 2 P.M. only two ounces could be injected, and he had great pain in the epigastrium afterwards. The pulse was very feeble and rapid. Three ounces of milk without brandy at 9 P.M. were retained and caused no pain. He sank quite quietly, and died at 5 A.M., May 12th.

Necropsy, at 3.15 P.M. *of the same day.*—Rigor mortis present, but weak; body not markedly emaciated. The aperture in left epigastric region led into stomach, the borders of the opening into which were adherent to the abdominal wall; at the lower part of the wound the omentum was attached to the aperture. The liver extended across the abdomen quite into the left hypochondriac region, and covered all the anterior wall of the stomach save the pyloric end where the opening was made. The surface of the liver near the wound was coated with lymph, and some thin purulent fluid was found above the peritoneal adhesions existing between the stomach and abdominal walls; no sign of peritonitis was present below the margin of the incision. The stomach was small and remarkably thick, the mucous membrane at the pyloric end being extremely red. The left lung was adherent inferiorly to the diaphragm and thoracic wall, also to the œsophagus just above the diaphragm, so that when the lung was gently pulled the cancerous mass lay open, showing black ragged edges. The œsophageal disease commenced at the cardiac orifice and extended upwards for quite four inches, the narrowest part being one inch above the stomach, through which only the small end of a blow-pipe could be passed. At the spot which was adherent to the pleura ulceration had commenced, and here there was a clot of dark blood attached by shreds of mucous membrane to the surface. The general deposit was carcinomatous, this being most apparent at the two extremities of the stricture. The liver presented on its surface secondary cancerous deposits the size of a large pea.

Remarks.—A remarkable point in this case was the absence of dysphagia or pain until within three months of death, whereas the growth has all the appearance of having existed for twelve months or more. The body was well nourished, showing that inanition was not the cause of death. Death appeared to result from exhaustion, depending upon a septicæmic condition of the blood. The peritonitis existing over the surface of the liver gave rise to no symptoms, the abdomen being perfectly flaccid, and pressure eliciting no expression of pain. Gastrostomy was undoubtedly a boon to this poor man, for his condition was changed from one of constant restlessness, thirst, and hunger, to that of complete repose. Owing to the enlarged condition of the liver and contracted stomach the latter was very hard to reach; this circumstance, together with the difficulty of making the aperture in any other position, complicated the operation, and lengthened considerably what ought to be a short and easy proceeding. Some authorities have waited for forty-eight hours before opening the stomach and administering food. No ill effects followed the course adopted in the present case.

GREEK HOSPITAL, ALEXANDRIA.

COMPOUND FRACTURE OF THE LEG, TREATED ACCORDING TO LISTER'S METHOD; EXCISION OF A LARGE PORTION OF THE TIBIA.

(Under the care of Dr. ZANCAROL.)

THAT the desire to take advantage of the devices of modern surgery is not confined to any one country the following notes, for which we are indebted to Dr. Stephen Kartulis, afford agreeable testimony. These notes, moreover, give us a passing glimpse of the crude state of native surgery in one of the foremost cities of Egypt. A severe compound fracture of the leg may, it seems, be tied up in a horse-bean poultice, and left by a native surgeon undisturbed for a week. It says much for the long-suffering character of Egyptian "germs" that matters were not very much worse when poor Mohammed was taken under Dr. Zancarol's humane and scientific care.

Mohammed ——, aged fifty-five, was admitted on Feb. 27th last. From notes taken at the time, it appeared that a heavily-laden car had a week before passed over and crushed the man's leg. He was taken to his own house, and treated by a native surgeon, who bound up the leg with a horse-bean poultice.

On admission the dressing, a week old, and saturated with fetid discharge, was removed. A compound fracture of the leg was found. The wound was at once washed with carbolic lotion (5 per cent.) A back splint and bandage were applied. The temperature was at 37·6° C.

The patient passed a restless night. On opening the dressing next day under carbolic spray the wound was carefully examined, and it was found that the skin above the middle of the tibial spine was lacerated to the extent of about two inches, and the neighbourhood of the same was gangrenous for about three inches. There was also slight œdema of the whole limb. The lacerated soft parts formed a large jagged sinus leading to the tibia; and a considerable quantity of thin fetid pus flowed from the sinus. With the forefinger in the wound, several fragments of the tibia were extracted, the interval between the two ends of the bone being about two inches and a half. The finger did not

reach the fibula, but on moving the limb with the other hand a fracture of this bone was also discovered. At the upper edge the tibia was very irregular and obliquely broken. The wound was syringed out with a strong carbolic lotion, and three drainage-tubes were introduced into the sinus. The limb was dressed antiseptically and placed in the same splint. Temperature in the evening, six hours after the dressing, was 38·6° C., the highest reached throughout the progress of the case.

On March 2nd, considering the satisfactory state of the patient, together with the comparatively low temperature, an attempt was made to save the limb and render it serviceable again. The patient was placed under the influence of chloroform. Dr. Zancarol, assisted by the house-surgeon and Dr. Kartulis, enlarged the wound from the sinus in four directions, and resected the edge of the tibia to square the broken ends. No attempt was made to resect the fibula. After the excision the distance between the ends was about four inches. The wound was washed with chloride-of-zinc lotion, and a plaster-of-Paris bandage fenestrated was applied with the greatest care. The opening in the bandage allowed a free margin of four inches round the wound. The wound was again washed, two drainage-tubes were introduced into it, and silver wire was used to bring the edges together. A piece of gauze saturated with carbolic lotion was put on the wound, and the patient was removed to bed, where a dresser attended with the spray at the bedside until the plaster-of-Paris bandage became hard. The leg was then dressed according to Professor Lister's method, and put in the back splint. Brandy was administered. The patient passed a good night, slept well, and did not complain of pain or other discomfort. Temperature 37·5° C.

On the 4th the first dressing was done, forty-eight hours after the operation. The gauze was saturated, and there was a considerable amount of healthy and odourless pus. The patient felt well. The wound was washed out through the drainage tubes. To facilitate the antiseptic process, and keep the wound in absolute rest, the limb was elevated on a suspension splint (like Salter's cradle).

On the 6th the wound was dressed a second time. The condition was satisfactory, and the pus healthy. The lines of excision of wound appeared to be united by the first intention. Temperature 37°.

Two days later the third dressing was done. On removing the sutures the wound was found to be healed in the greater part. The other parts which had been lacerated were covered with fine granulations. No disagreeable odour of the pus. The drainage tubes were removed from the sinuses to wash the wound. The separated edges of the tibia could be felt with the probe only from the sinus above the spine of the tibia. The general condition was satisfactory. Tonics and generous diet were given. Temperature 37°.

During the succeeding eleven days everything went on well, the discharge of pus being neither profuse nor offensive. The distance of ends of tibia was again examined with the probe, which entered only an inch and a half into the wound from the sinus above the spine of the tibia, and touched on bone tissue. From the other sinus (at the external edge of the tibia) the probe only went in an inch, and came upon soft tissue, probably granulations, as there was considerable pain in introducing the drainage-tube. The temperature did not exceed 37·6°.

On April 17th healing of wound was proceeding rapidly; the parts, which did not heal by first intention, had healed by granulation, and the wound was cicatrising. The sinus had healed by granulation, and the drainage tubes were removed. Only a slight discharge issued from the narrow lumen of the sinus above the spine of the tibia. Next day, however, the patient felt some pain in the leg. A probe was introduced through the narrow lumen of the sinus, and dead bone was discovered. The sinus was enlarged, and three large and several smaller fragments were extracted. The forefinger in going into the wound touched only a rough surface, which seemed to be a callus tissue. A new plaster-of-Paris bandage was applied on the 20th.

On May 15th the wound was rapidly healing and filling up with granulating tissue; the leg was still in the plaster-of-Paris bandage, elevated in the suspension splint. There was a painful spot over the patella, which annoyed the patient a good deal, and on removing a small portion of the bandage, a slight excoriation was found.

On the 26th the whole plaster bandage as well as the suspension cradle were removed. On gently examining the union of fracture, passive and active movements were found unaffected; the patient could bend and stretch his leg very easily.

On June 1st the whole of the bandage was removed, and eleven days later the patient was hobbling about the ward with the aid of a stick. The affected leg was one inch shorter than the other.

Remarks by Dr. KARTULIS.—This case has a double interest both from a surgical and historical point of view: from the latter on account of its being one of the severest ever treated in Egypt, and performed throughout antiseptically. As for myself, a pupil of Professor Lister, I followed the case with the greatest amount of interest, and am gratified with the happy result, which is by no means unique at this hospital. From a surgical point of view it is interesting, because the smashing of both bones and the injuries to the soft tissues appeared so extensive, that at first amputation was recommended, especially as this severe injury had been treated for eight days with a horse-bean poultice. The suppuration, too, was profuse. The condition of the patient, however, improved, and, with the encouraging examples of Lister's antiseptics in our minds, we resolved to attempt to save the limb. On the other hand, after the operation we had a gap of four inches in the resected tibia, which had to be filled up with new tissue before union could be effected. The low temperature is worthy of note, the highest point attained being 38·6° C. (101·5° F.), and that two days before the operation. The progress of the case was tedious, but the limb was saved and rendered serviceable to the poor man.

Reviews and Notices of Books.

Atlas of Histology. By E. KLEIN, M.D., F.R.S.; and E. NOBLE SMITH, L.R.C.P. Parts V., VI., and VII. London: Smith, Elder, and Co. 1879.

THE issue of the parts of this important work is continuing with commendable regularity, and the execution of the plates is quite equal, if not superior, to those of the earlier numbers. Part V. contains four plates, with thirty figures; Part VI., three plates, with twenty-four figures; and Part VII., four plates, with twenty-nine figures. Part V. deals with unstriped and striped muscle. The unstriped muscle-cell is thus described, the drawings answering to the description:—

"Each muscle-cell consists of the following parts (Klein): (*a*) of a fine sheath, probably elastic, which possesses transverse linear thickenings; these are especially distinct when the muscle-cell, or part of it, is in a contracted state; (*b*) a central bundle of fibrils, representing the contractile substance, or the core; (*c*) an oblong nucleus which, within a membrane, includes a fine network (Flemming, Klein). This network anastomoses at the poles of the nucleus with the bundles of fibrils of the core (Klein). The position of the nucleus varies in different muscle-cells; as a rule it is in about the middle of the long axis of the cell, but there are many instances in which the nucleus is nearer to one extremity than to the other. As a rule the nucleus is contained in the thickest part of the cell.....At the extremities the muscle-cell is drawn out either into a longer or shorter fine point, pushed in between the neighbouring cells. In some instances both extremities are branched.....The longest and thickest muscle-cells are found in the intestines, the shortest in the arteries, the thinnest in the sweat-gland tubes....."

It will be seen that the additions made by the authors to the current knowledge of unstriped muscle are considerable. The mode of termination of the nerves in unstriped muscle is referred to an after-part of the work, and on opening Part VII. we find a full account given of the plexuses of non-medullated fibres distributed to this tissue, and the balance of testimony seems to be in favour of the ultimate fibrils of the nerves entering the fibres of the muscle, and becoming connected with the nucleus. The structure of striated muscle is of course given at great length. The authors admit a framework consisting of sarcolemma and Krauss's membranes, and a muscle-substance contained in

the compartments formed by these membranes. This consists of a broad dim, highly refractive, contractile disc, composed of prismatic rods, the sarcous elements, and a narrow transparent lateral disc placed at each end of the contractile disc. In the act of contraction the contractile disc becomes thinner and broader, but transparent. They mention, without endorsing, Hensen and Engelmann's transverse median disc, which those observers regard as dividing the contractile disc into two.

The last two plates of Part V., and all those of Parts VI. and VII., deal with the microscopic anatomy of the nervous tissue, which is consequently very fully given. The authors have in several of these drawings taken advantage of, and copied, the drawings contained in the exquisitely finished work of Retzius and Axel Key, but many are original. The reader of the text, who has not followed the literature of the subject for a few years, will find that the persevering labours of many observers have led to the acquisition of an immense body of facts, many of which will doubtless be found to have a direct and important bearing on practice. Thus it has been shown that between the inner surface of the perineurium and the nerve-fibres themselves there are always to be found longer or shorter lymph-spaces lined by a layer of endothelium, and these are connected with lymph-spaces of the endoneurium passing in between the individual nerve-fibres. The endoneural lymph-spaces have been injected by Axel Key and Retzius in connexion with the lymph-spaces of the perineurium, and they have been shown by those observers to be so numerous that each individual nerve-fibre appears surrounded by them. Now the very existence of these lymphatic vessels was unknown till recently, but it is obvious that their distension, or unloading when over-distended, may explain some of the otherwise obscurely explicable cures wrought by acupuncture and by aquapuncture, as well as the immediate effects of the subcutaneous injection of many drugs. The medullary sheath of the nerves, formerly regarded as a structureless fatty substance, is now shown under the influence of perosmic acid, though not in all medullated fibres, to consist of overlapping cylinders of various length, each composed of a honeycomb framework, in the meshes of which lies embedded the fatty substance. Between axis-cylinder and medullary sheath, again, a very narrow space has been demonstrated, which contains fluid albuminous cement substance, and this, under the influence of nitrate of silver, sometimes exhibits an appearance as if it were composed of transverse bands or rings. Ranvier's nodes are fully described. The histology of the brain and spinal cord is given as completely as can be expected in a work devoted to histology. To have followed the course of the fibres would obviously have carried the authors into too wide a subject. In speaking of sympathetic nerves the authors admit what was at one time denied—the existence of unipolar cells. They find such cells especially in the microscopic ganglia of the alimentary canal and in the genital organs of mammals. It is difficult to guess how such isolated cells act, and what their function may be. If automatic their discharge must be periodic, and dependent on the conditions of nutrition. The description of the mode of termination is drawn from the testimony of many writers, supplemented by the authors' own investigations. There is no question now that the sheath of Schwann fuses with the sarcolemna, and that the medullary sheath is lost in man; the axis-cylinder then branches into several thin fibres forming a network with one another. These fibres remain on the surface of the muscle-substance proper, but lie embedded in a granular plate-like mass, the nerve-end of Kühne containing numerous oval nuclei, which are of three different kinds, some belonging to the outer sheath of the nerve-fibre, others corresponding to the nerve-corpuscles, and others again belonging to the granular matrix of the end plate.

It will be seen from the remarks we have made that we estimate the work highly, and look with interest for the issue of the succeeding parts.

Report and Record of the Operations of the Stafford House Committee for the Relief of Sick and Wounded Turkish Soldiers, Russo-Turkish War, 1877–78. London: Spottiswoode and Co.

THE operations of the Stafford House Committee for the relief of sick and wounded Turkish soldiers during the recent Russo-Turkish war, formed at the suggestion and under the presidency of his Grace the Duke of Sutherland, K.G., constitute one of the very few episodes which can be recalled to memory with gratification of the events of that war as they affected the Turkish armies. The committee was established in December, 1876, and in the course of operations extending over nearly two years, out of receipts amounting to £39,293 8*s.* 11*d.* (£6000 being contributed by his Grace the Duke of Portland), it expended £38,384 15*s.* 1*d.* In the work now before us a complete history is given of the proceedings of the committee and of the mode in which the money was disbursed, together with much incidental information of the circumstances under which the operations of the committee were effected. The work is divided into four parts, of which the first is the final report of the committee; the second is a record of operations at the seat of war, by Mr. V. B. Barrington-Kennett, M.A., LL.M., the committee's chief commissioner; the third is a medical report by the sub-committee, of which Sir J. Fayrer, K.C.S.I., M.D., F.R.S., was chairman; and the fourth is devoted to accounts. An appendix gives an obituary of the three lives (all of medical men) lost in the service of the committee at the seat of war. The work, moreover, is illustrated by maps, showing the distribution of the committee's hospitals and relief-stations in Europe and Asia, and by a diagram showing the number of patients treated in the committee's services in every month from August, 1877, to September, 1878, inclusive. Altogether the book forms an admirable record of a very noble work, and it will prove of permanent value, not only as illustrating the mode of operation of one of the forms of voluntary effort for assuaging the evils of war, which now seem to be becoming one of its almost necessary accompaniments, but also from the incidental light which it throws upon the conditions of the Turkish forces during the late war.

The medical section of the report is preceded by some introductory remarks by Sir J. Fayrer, needlessly suggestive, as we think, of imperfections of the reports sent to the committee from time to time by their medical agents at the seats of war. The difficult conditions under which these gentlemen had to perform their duties from the first were of a sort little adapted either for scientific observation or scientific, even regular, reporting. The work to which they were relegated was above all things practical, and had to be conducted, as a rule, in circumstances which tested to the utmost the adaptive faculties of the individual. Hence such lessons as were to be looked for from their experiences were lessons of difficulties overcome or successfully anticipated, not lessons touching the more recondite questions of military hygiene, of epidemic and endemic diseases, of pyæmia, blood-poisoning, &c. We are rather disposed to wonder at the amount and quality of the observation displayed in the reports printed from Dr. Robert McIvor, Mr. F. R. Baker, Mr. Weller, Mr. Symon Eccles, Dr. Pinkerton, Mr. Mackellar, and Dr. Stevens, than to comment upon assumed deficiencies. The several reports at least prove how excellently the committee's agents were selected, and how thoroughly the selected justified the choice that fell upon them.

The total number of surgeons sent out by the committee, including the surgeons (15) first sent out by Lord Blantyre

at his own charge, and afterwards associated with the Stafford House Committee staff, was 53. In addition there were 5 hospital dispensers, 5 transport agents, 19 dragoman dressers, a staff of store-assistants, and numerous dressers attached temporarily to the various hospitals. The total number of patients who came under the care of the committee's staff is estimated at 71,274, of whom 38,499 were sick, and 32,775 wounded.

Three of the medical staff lost their lives in the prosecution of their duties—Mr. F. L. Attwood, who, after being a prisoner in the hands of the Russians, and exposed to great hardships, died from malarious fever at Philippopolis on the 11th April, 1879, aged thirty-five years; Dr. John Pinkerton, who contracted typhus in Erzeroum, and died of the disease there on the 7th January, 1878, aged twenty-five years; and Mr. W. G. Guppy, who was attacked with an acute form of enteric fever, and died, also at Erzeroum, on the 17th November, 1877, aged twenty-two years.

To the medical man this record of the Stafford House Committee's labours has a special interest, but it will scarcely have a less interest for all who are concerned with the remarkable development of voluntary efforts for the relief of the miseries of war, of which the committee and its operations form one of the most brilliant and instructive illustrations.

Elementary Treatise on Physics Experimental and Applied, for the Use of Colleges and Schools. Translated and edited from Ganot's "Eléments de Physique," by G. ATKINSON, Ph.D., F.C.S., Professor of Experimental Science, Staff College, Sandhurst. Ninth Edition, revised and enlarged. Illustrated by four coloured plates and 844 woodcuts. 8vo, pp. 949. London: Longmans, Green, and Co. 1879.

IT is scarcely necessary to do more than direct attention to the fact of the publication of a *ninth* edition of this approved work. In this instance the multiplication of editions is a genuine indication of the value and acceptability of the book. The present edition has been not less carefully revised and enlarged than previous ones, and the typography and beauty of the illustrations could not well be surpassed. We are disposed to envy students who have the opportunity of making their first acquaintance with physics by the aid of a text-book such as this is.

The Archives of Ophthalmology. Edited, in English and German, by Dr. H. KNAPP, New York, and Dr. HIRSCHBERG, Berlin. New York: Putnam. Wiesbaden: Bergman. London: Trübner. Paris: Baillière. 1879.

THIS periodical will henceforth be published separate from its quondam companion, the "Archives of Otology," which together formed the "Archives of Ophthalmology and Otology." The division has been made, we are told, "both for the convenience of many readers who practise ophthalmic or aural surgery exclusively and for the sake of doing justice to the growing importance of the literature in both departments." Hitherto the English and German editions have contained the same original papers, either in the language of the authors or in faithful translation. This plan is essentially to be continued; but if the contributions become too numerous, some papers will be abridged in translation.

We have as much pleasure in recommending the publication in its new form as in the original. It is high class, and thoroughly representative.

Archives of Otology. Edited, in English and German, by Dr. H. KNAPP, New York, and Dr. S. MOOS, Heidelberg. New York: Putnam. Wiesbaden: Bergman. London: Trübner. Paris: Baillière. 1879.

AS we have stated above, this is the Otological portion of the Archives of Ophthalmology and Otology, and will in future be published separately every quarter. In this department the Archives of Otology are as good as are the Archives of Ophthalmology in theirs. Nothing more need be said in their favour.

New Inventions.

JAMES ALLEN & SON'S STEAM-SPRAY APPARATUS.

SEVERAL months ago Mr. R. W. Parker exhibited at the Clinical Society a steam-spray producer that he had had made for hospital use. Since then Messrs. Allen and Son have, at the suggestions of friends, made various improvements in it, and are now selling an apparatus which we believe to be far superior to any other of the kind, especially for hospital purposes. The accompanying engraving gives a good idea of the arrangement, and we need only point out its peculiar advantages. The boiler is well tinned on the inside to prevent the formation of any coating, and holds three pints of water; the "spray" is therefore particularly useful where it is required for several dressings or operations. Near the bottom of the boiler is a glass disc (F), by which the user can instantly detect when the boiler requires refilling. The safety-valve (A) differs from all others hitherto introduced, in being a dead weight of lead nicely adjusted to the requirements of the operator, and hollowed on the under side, so that any steam escaping is directed down and not up into the faces of the assistants; this dead weight is as safe as it is simple, and appears to be the perfection of a safety-valve. Another

improvement is the lever (D), by which the spray is directed with the greatest facility; the joints necessarily expand by the heated steam, and the short handles usually fitted to them are then exceedingly inconvenient, the movement being a series of jerks. The glass in the side, to show the height of the water, the safety-valve, and lever arrangements, are matters which have been specially suggested to Messrs. Allen since their apparatus was first produced, and greatly enhance its value. The lamp is a very efficient one, provided with a large wind-up burner (I). Two pairs of steam and suction jets are supplied with each apparatus, the one finer than the other, and they are made to screw on and off for the purpose of cleaning. The metal receiver (H) is fixed to the stand, into which a tumbler or bottle of antiseptic solution can be placed. Messrs. Allen and Son also supply a very convenient table, made expressly for this apparatus, suggested by Mr. B. Hill, and since modified. It is mounted on castors, and at the lower part between the legs is a tray for holding bottles, &c., while above is a tray into which the stand of the instrument is securely fixed. This tray can be raised and lowered, or turned horizontally in any direction. We have tried this apparatus on several occasions, and find

it thoroughly efficient. It will work continuously for two hours and a half, throwing a copious and fine spray to a distance of from six to eight feet, and its efficiency, safety, simplicity, and cheapness recommend it strongly to the profession.

CROSS'S SUSPENSORY BANDAGE.

MR. J. B. CROSS, a student at Guy's Hospital, has devised a very simple, and at the same time cheap and serviceable, Suspensory Bandage. It consists of a bandage round the waist, to the middle of the back of which is tied a strip of flannel four inches wide, which is brought round the perineum to the front and fastened to the band; in this is a slit for the penis. Just behind the penis the middle of another strip of flannel is fastened across the first, and one end is brought up on each side and rolled round the band encircling the waist. This gives a support to the scrotum which has no tendency to slip; it can be adjusted very accurately, need never be loose or too tight, and at the same time is comfortable to wear. Of course other materials than flannel can be used, and with advantage, for flannel is too irritating for most people's skin. When modified in this way it will no doubt prove very efficient.

THE INTERNATIONAL MEDICAL CONGRESS AT AMSTERDAM.

THE International Medical Congress opened its proceedings at Amsterdam on the 7th inst., under the presidency of Professor Donders. In his opening address the illustrious Utrecht professor expounded the principles of the Congress, and sketched out the manner in which medical science had been built up—by Germany, too prone perhaps to philosophical speculations; by England, with its positive and practical mind; by France, with its great anatomo-physiological school, from Bichat to Claude Bernard. Then, referring to the different communications which would be made to the Congress, the President reviewed many of the great discoveries of the present century, eulogising especially the labours of Pasteur and Lister; and terminated by advocating the inclusion of psychological studies in the domain of physiology.

In the session of September 8th Dr. Chervin (Paris) read a paper on Stammering, dwelling especially upon its causes and treatment. The majority of the theories broached as to its nature make it a spasmodic affection involving all the lingual muscles, according to some; the genio-glossi only, according to others; others, again, referring it to spasm of the upper respiratory passages. These theories, based on no solid foundation, have led to disastrous surgical practice—e. g., section of the base of the tongue, of the genio-glossi, of the hypoglossal nerve, removal of the tonsils, &c. The author considered stammering to be simply a want of co-ordination in the multiple acts necessary for speech. Methodical treatment carried on for three weeks is generally attended with success. For the first week the stammerer is forbidden to speak, except at definite times set apart for practice in reading and recitation. During the second week he is allowed to speak, but carefully watched so that he is made to articulate every syllable slowly and distinctly. Then he is permitted to speak a little more rapidly, and at the end of the third week he is cured of his fault. M. Chervin dwelt on the medico-legal aspect of stammering, and gave some interesting statistics as to its prevalence in various countries and in the two sexes.—In a paper on the Influence of Tobacco-smoking upon Scorbutus, Dr. Bertheraud combated the prevalent idea of the prophylactic character of this habit, and inclined to the belief that the habit intervened directly in producing the disease.—M. G. Van Leent communicated the results of his investigations on Beri-beri.

The session of September 9th was signalised by a communication by Mr. Lister on the Antiseptic Method. The distinguished English surgeon was loudly applauded. Mr. Lister limited his remarks chiefly to the defence of the antiseptic method against the three following objections which had been raised to it. 1. Surgeons who disbelieve in the part played by germs have attacked the carbolic dressing on the ground of theory. If bacteria do not exist around wounds, or, at least, if they do not possess the evil properties attributed to them, a dressing which aims at preventing the development of these bacteria has no *raison d'être*. 2. That the antiseptic dressing with carbolic acid is not free from dangers, and may produce poisoning. 3. That if good results are obtained by the Listerian method, the same results may be had by means of other modes of wound-dressing. To the first of these objections Mr. Lister replied shortly that he believes in germs and their deadly *rôle*, but declined to enter into a theoretical discussion which would occupy so much time. To the second objection he admitted that in a certain number of cases he had observed symptoms due to carbolic-acid poisoning, both local and general. Locally carbolic acid produces irritation of the wound. When absorbed it leads in some patients to loss of appetite, vomiting, general weakness; death had even been seen to be occasioned by it. But all these accidents are very rare, and, moreover, they may readily be prevented. He avoids local irritation by not washing the wounds, as many surgeons do. The general toxic effects are readily prevented by employing carbolic acid of good quality, and carefully watching the patients so as to leave off the acid as soon as these symptoms appear. He had not had very good results from the use of boracic acid, thymol, and salicylic acid as substitutes for carbolic acid. On the third head Mr. Lister said that those who object to use the carbolic method because as good results are obtained by other modes of dressing, do not know what may be done by means of the former. The largest and deepest abscesses may be opened with impunity, large joints may be laid open, &c. He submitted for adoption by the Congress the proposition that the principle of antiseptic dressing is fully justified, and that the means which we have of realising this dressing are quite sufficient. The report from which we quote (*Progrès Médical*) adds: "The whole hall rose cheering, and gave Professor Lister a thorough ovation. Those even—and some such must have been there—who are little concerned with the question of antiseptic surgery applauded as enthusiastically as the rest. For the orator had defended his cause in a tone of ardent conviction, which charmed the most indifferent." No one offered to reply to the arguments of Professor Lister.—A paper was read by Professor Rosenstein upon Bright's Disease and Primary Cirrhosis of the Kidneys. The following are his conclusions:—1. The anatomical lesions of the kidneys, which determine the group of clinical symptoms first described by Bright, always involve the parenchyma as well as the connective tissue of those organs. 2. There is neither an exclusive parenchymatous nephritis nor an exclusively interstitial nephritis. Experiment and clinical observation show that where a true diffuse renal inflammation takes place both histological elements are affected from the commencement. 3. The final issue of diffuse renal inflammation is the white kidney and the red granular kidney. They form from the anatomical point of view the atrophied kidney, and only differ in this, that the parenchymatous affection is more pronounced in the former, the interstitial affection in the latter. Clinically the two may be distinguished by analysis of the urine. The symptoms of atrophy are common to both modifications. 4. Clinical observation makes it very probable that, just like the white kidney, the red granular kidney—or, as it is now called, "primary cirrhosis"—is preceded by periods of swelling; and this is not contradicted by pathological research. 5. Bright's clinical description relates especially to the granular white kidney. In this form the morbid process passes through two stages, which can be determined clinically as well as pathologically.

SOUTH LONDON SCHOOL OF PHARMACY.—The public opening of this school for the session 1879–80 took place on Tuesday, the 16th inst. There was a large muster of students present, and a greater number of visitors than usual. The secretary, Mr. W. Baxter, after reading his annual report, presented the medals awarded last term to the following successful competitors:—Senior Chemistry, Mr. Crook; Junior Chemistry, Mr. Roughton; Botany, Mr. Sagar; Materia Medica, Mr. Harburn; Pharmacy and Dispensing, Mr. Parkin.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 20, 1879.

THE efficiency of the Army Medical Department under its new organisation has been subjected to two severe tests in the Afghan campaign and the war in Zululand, and the results are almost ripe for consideration. In Afghanistan, as we pointed out at the time (THE LANCET, Dec. 14th, 1878), the Indian Government decided to adopt the departmental system after the troops had actually taken the field, and, notwithstanding the disadvantage of its introduction under such circumstances, the wants of the sick and wounded have been carefully supplied, and while there have been few complaints of shortcoming in this branch of the service, there is alleged to have been an important gain in the reduction of transport required for its efficient working. Whatever may be finally deduced from the experiment, too much praise cannot be given to Surgeon-General KER INNES for the very able arrangements he made to carry out the new organisation, and to his staff for their efficient co-operation. At the Cape the departmental system was in operation from the commencement. There have been some complaints of deficiencies in hospital comforts and in the means of transport for the sick, but these were soon remedied, and were for the most part an unavoidable result of the circumstances under which the campaign was begun and carried on. For a considerable time the information respecting the working of the Medical Department was very vague, and some of it was obviously given under the influence of a strong bias. At length, however, we have testimony of an unimpeachable character in the report sent home by Mr. YOUNG, the Commissioner of the National Society for Aid of the Sick and Wounded in War. Writing from Durban on July 26th, he states that he had taken great care to keep himself well informed of the state of the sick and wounded, and was sure that there had been no suffering or loss of life from the absence of an adequate hospital establishment, or from the want of comforts owing to a defective or insufficient system of supply. Admitting that on the first arrival of the large addition to the force there were some slight unavoidable deficiencies, he adds: "These emergencies the Medical Department nobly met by great exertions on the part of the staff at the base in Durban and along the line of communications, and with the moving force itself, and succeeded so well that I am convinced no undue suffering or loss of life occurred which could have been prevented." In fact, the work was, in his opinion, so well done that he did not consider it necessary to call upon the National Aid Society to send out surgeons, nurses, or additional funds to enable him to organise a supplemental system of transport for the supply of comforts. This testimony, from an independent source and from one so well qualified to judge of the requirements of the sick and wounded, is weighty, and we trust that when the time arrives for the distribution of honours and rewards, the Department which has so efficiently and successfully discharged its important and difficult duties will not be forgotten. Meanwhile the working of the Medical Service in these two campaigns contrasts favourably with the miserable breakdown which occurred in the Crimea. There has been a remarkable absence even of those shortcomings which might naturally have been expected in military operations conducted under such circumstances as those in Zululand, or under any change of system effected after the troops had actually taken the field. It is creditable alike to those who have organised the Department and to the officers who have so ably brought into operation the new conditions of service.

A WORD of warning may be not out of season for the many members of our own profession and the multitude of energetic workers in the several branches of industry who are returning to their labours, and taking up again the thread of a routine life with a mingled feeling of freshness, the pleasing effect of change, and that jaded sense of mental and physical "stiffness"—a sort of moral myalgia—which are the contingent consequences of unaccustomed exercise and the really great effort it is necessary to make in these days of piping energy to secure a holiday.

The recuperative effects of a change are by no means, as everybody is apt to suppose or assume, immediate in their manifestation. The change is *from* one state *to* another, and it is accomplished *through* a series of mutations which, in the great majority of instances at least, may be easily recognised. Either stage of the beneficial process may be delayed or interrupted, to the detriment of any part of the system. For example, it not unfrequently happens that the good expected from a release from labour is not realised because the holiday-maker is unable to detach himself mentally from the business cares and worries he ought to have left behind him, or perhaps habit has so linked his life to a particular routine of exercise or physical idleness that he is not at first able to dispense with the conditions incorporated in custom. Or, again, the physical work exacted from the pleasure-seeker may be uncongenial because unaccustomed, or inordinate inactivity may cripple his energies. In any of a score of ways the beneficial action of change may be impeded or wholly prevented. It is, however, with the return to habitual ways of life and duty we are for the moment interested, and it is at this point the possible benefits of a holiday are very often lost.

It is not enough to return to work with an increased stock of strength and some of the cobwebs blown away. There ought to be a revival of interest in work, without its too-constant concomitant, a sudden renewal of the old anxieties. Every life has its difficulties, and each individual consciousness its special cares; but when the whilom pleasure-taker goes back to his work with a sigh, not of relief but of anxiety, there is reason to fear that he has scarcely recovered that equanimity and resilience of mind without which flesh is weariness and life a toil. Meanwhile, no small part of the uneasy or ungainly reluctance with which even men of spirit resume their labours after a holiday is directly due to the awkward fashion in which they strive to recover the threads of routine duty and enterprise. A man fresh from the continent, the lakes, or the seaside, plunges headlong into business, as he might take a header from a boat or

a jetty in his invigorating sea-bath. He forgets that the element into which he is plunging is one wherein he must remain immersed for at least some months to come. It is better to emulate the children's method of dabbling only at first, and to postpone the period when the head must fain be submerged as long as possible. In short, the ordinary burdens and worry of life should be taken up slowly. Too many of us carry our work with us, or leave the business at home in such dire disorder that when we come back there is an increase of anxiety, or, at best, no sense of ease and refreshment. Some, more unwise than their fellows, add to their burden while away, and return the worse, instead of the better, for the respite.

A prudent maxim for the man of energy when he comes back glowing with the warmth of new life, with skin bronzed, and pulse bounding, will be to get into the saddle, not by vaulting, but very easily, and to feel the mouth of his refreshed steed gently, before he gives it its head, and sets out on some new feat of strength and daring. If this precaution be not taken, there will probably be a repetition of the too familiar experience—namely, a headlong rush into work, a squandering of strength and energy, with an early break down, or premature exhaustion before the time for another revival comes round. Each year added to the tale of a man's life diminishes his capacity for the renewal of strength, mental and physical. The reserve stock of potential energy accumulated is less after each season. The faculty of recuperation is itself worn out as time rolls on. It is therefore only commonly discreet to husband the diminishing reserves more carefully after each replenishing. If the man of business advancing in years, even though the sum of his days be small, would bestow some timely caution on the expenditure of his strength of body and mind, particularly in the early weeks—when a sense of energy tempts him—after a holiday, he would economise the stock of life itself and avoid that feeling of being breathless and played out which so often overtakes the busy worker at the very crisis of his labour, later on when all the power, and clearness, and energy he can command are needed to prepare the way for another season of relief and possible refreshment. To be deceived by purely subjective experiences, and rush at once into exhausting labour, is to court premature weariness and disappointment. The wise will set higher value on the stock of strength accumulated, and dole it out cautiously, if not even in a somewhat niggardly fashion, while the feeling of buoyancy persists.

WE have been favoured with a batch of three reports by inspectors of the Medical Department of the Local Government Board, which suggest some considerations on the educational functions of that Board. In our recent observations on the last-issued annual report of the Board (THE LANCET, Aug. 30th), we had occasion to comment upon certain pedagogic aspirations of the Board, and the question is again forced upon us by the reports now before us. These reports refer to the rural sanitary district of Billericay, with special reference to a recent prevalence of diphtheria in the village, by Dr. THORNE THORNE; to an outbreak of enteric fever in Chichester, by Dr. AIRY; and to an epidemic of enteric fever in the village of Selborne, Hants, by Dr. BLAXALL. The several reports are characterised by that thoroughness of observation which has made the work of the Medical Department of the Local Government Board so famous, and which makes the reports prepared by it invaluable, not merely for their immediate purpose, but also as contributions to local sanitary history, of a nature which, while serving to show what advances had been gained by sanitary administration, serve also to indicate what remained deficient in these respects. The importance of information of this sort in the localities to which it refers is admirably shown by the still accessible local reports of the sanitary conditions of numerous places prepared for, and published by, the General Board of Health. The practical value of these reports for indicating the gains and shortcomings of places, and inciting local authorities to make good defects, is even now great, and in them is to be found some of the most important data regarding the sanitary history of the kingdom. It was a national misfortune when the general practice of publishing reports of this class ceased with the dissolution of the General Board, for they unquestionably formed one of the most important agents in the sanitary education of the kingdom. From the time of the cessation of these reports, although the custom of official reporting on the subjects to which they refer has continued, and the mode of reporting has been brought to a much higher state of development, a few selections only have been published from year to year, and the general run of reports have been issued only to the particular localities to which they related, and even there have only been procurable by special favour of the department of Government issuing them. In other words, reports, of which the peculiar value should have consisted in the educational influence upon local communities, have been published in such a form as to restrict that influence to the utmost. It is difficult to surmise how this perversion of administrative activity should have been brought about, and how it should still be continued. It has deprived the kingdom of some of the most valuable and instructive records of sanitary progress, both local and general, and it has deprived localities of the means of reference requisite for their just guidance in sanitary matters, and for steadying them in their work of sanitary administration. True, under the present organisation the reports of the medical officers of health are presumed to afford all necessary local guidance, but so long as it is found necessary to employ central inspectors upon local matters, so long it is to be inferred is it desirable that their reports should be published in a fashion which may make them generally accessible to the local community, and the public at large.

We are indebted for the reports which give rise to these remarks to the courtesy of the Local Government Board, and there is no other means by which they may be procured. Why the reports of the inspectors of railways and of mines, on the accidents which form the subject of their inquiries, should at once be made accessible to the public at a cost of two or three pence, and the reports of the medical inspectors of the Local Government Board, not less important, it might be supposed, in their bearing on life and death, should not be thus made accessible, is one of those mysteries of administration which we do not pretend to solve. What makes the mystery more inscrutable is that the reports of the latter gentlemen with which we are favoured

come to us excellently printed and even illustrated. Two of the reports before us, for example, those of Dr. AIRY and Dr. BLAXALL, are illustrated with capitally-drawn and lithographed maps. If it were worth while, as it obviously is, to set type and stones for printing these reports, surely it would be worth while to print off a few copies which might be obtained from the Parliamentary printer's at the cost of a few pence? Even as a question of money-economy this might be thought desirable. But we would have the Local Government Board consider, in entering upon the pedagogic functions it now proposes to undertake, whether the issue of these reports as saleable papers would not be one of the most important elements in furthering its educational career. Judging from our own experience in this matter, we would aver that the sooner that Board reverses its policy in this respect, the better for the public generally and the better for its pedagogic reputation.

A RECENT essay on the subject of the secretion of milk, by Professor RAUBER, gives the results of his researches, which were chiefly made upon guinea-pigs. The origin of the fluid and soluble portions of this secretion is involved in the same obscurity as occurs in the case of the urine or saliva, but the presence of the morphological elements, which are so abundant in milk and are represented by the fat-globules and lymphoid corpuscles, introduces a new difficulty which hitherto no attempt has been made to explain. According to Professor RAUBER, milk owes its origin to the white corpuscles of the blood, which traverse the walls of the terminal vesicles of the gland in extraordinary numbers, and then undergo disintegration. In preparations of the active gland which had been hardened either in chromic acid, in osmic acid, or in alcohol, and had then been stained with hæmatoxin or carmine, it was found that the lymphatics were distended and tightly packed with lymph-corpuscles; that the stroma of the gland was thoroughly infiltrated with migratory corpuscles; that corpuscles precisely resembling these were visible in all the terminal vesicles of the ducts, often in very large numbers; that intermediate stages between unchanged lymph-corpuscles and ordinary milk were frequently observable; and, lastly, that the epithelial cells lining the ducts and vesicles of the gland presented no appearances of proliferation. In some instances the distension of the acini of the gland with white corpuscles was so great that there was no space for any intervening fluid, whilst in others the fluid was more abundant. The corpuscles in the stages of disintegration intermediate between their normal state and that of healthy milk exhibited the various forms of colostrum corpuscles. The first change consists in the swelling up from the imbibition of fluid of the protoplasm of the lymph-corpuscles. Fat-molecules and large fat-granules then make their appearance; one or more nuclei are still constantly present, but these also subsequently break up. As the protoplasm becomes more and more fluid, the contours of the corpuscles become less and less perceptible, the fat-molecules become free, though still sometimes preserving a delicate albuminous envelope derived from the original corpuscles, and the milk is then perfect. The colostrum corpuscles represent a transitional stage of constant occurrence between the lymph-corpuscles and the perfectly formed secretion. They appear, as is well known, in the first period of lactation, and are subsequently either altogether absent or only appear in very small numbers and in the course of acute disease. It is not improbable that, if carefully looked for, they would be found to recur in the later periods of lactation. Their presence in acute disease is easily explained, for in such cases the milk is evidently in an immature condition. It is as difficult to explain the orderly and sudden disintegration of the white corpuscles when they have gained the interior of the acini, as it is to explain the diapedesis of the corpuscles themselves. The membrane through which they have to pass is undoubtedly capable of determining what constituents of the blood should pass through it, but it is also probable that the epithelial cells secrete a ferment which induces or accelerates the disintegration of the lymph-corpuscles. Further researches are needed on this point, as well as to determine whether the extractives of the milk are composed of nuclein or some analogous body. Dr. RAUBER entertains no doubt that the fatty constituents of the milk proceed from the disintegration of the albuminous components of the white corpuscles, and he thinks the casein proceeds from the same source. He discusses the cause of the great diapedesis of the white corpuscles, and draws attention to the fact that bodies in all respects similar to the white corpuscles are to be found in the yelk-sac of many mammals, and that such bodies also minister to the process of nutrition of the embryo. The birth of the fœtus, so to speak, occludes one important channel through which the white corpuscles are accustomed to make their escape, and the mammary glands afford, by the sudden accession of activity, a new channel, which, however, may still be regarded as continuous with the former, since it is directed to the nutrition of the fœtus. Lactation is to some extent comparable to suppuration, though morphologically the mammary gland resembles a sebaceous gland.

Annotations.

"Ne quid nimis."

THE SUMMER OF 1879.

THE summer season has passed without any summer, and this fact will cause the year 1879 to be long remembered. The months of June, July, and August, may be said most nearly to correspond with the summer season, and the whole of these three months were generally characterised by the same meteorological features—low temperature, frequent and abundant rain, and paucity of sunshine. These conditions were so strongly marked that it is worth quoting a few figures from the observations at the Royal Observatory, which will enable us to compare them with those for average summers, and also with those for the memorably cold summer of 1860, which was still more unseasonable than that we have just passed through. During the past three months of June, July, and August, the mean temperature of the air at the Royal Observatory, Greenwich, was 58·3°, and was 1·9° below the average for the corresponding period in 100 years. There has been no near approach to so low a mean temperature for these three months since 1860, when the mean was only 56·7°, which was 1·6° lower than the mean temperature of the past summer. Only on sixteen of the ninety-two days in the past three months did the mean temperature equal or exceed the average, and not once

during that period did an excess of temperature prevail on more than five consecutive days. In the corresponding period of 1860, the mean temperature did not equal or exceed the average on more than eight of the ninety-two days. Rain was measured at Greenwich on no less than fifty-nine of the ninety-two days in the past three months, to the aggregate amount of 13·2 inches, the average amount for this period in sixty-one years being but 7·0 inches. In the matter of rainfall the past three months bears a striking resemblance to the corresponding three months of 1860, when 12·3 inches were measured on fifty-eight of the ninety-two days. With this exception, it does not appear that the rainfall of the past summer has been even nearly approached since 1815, when the available records commence. During the past eight months of this year, no less than 26·2 inches of rain were measured at Greenwich, exceeding by 10·6 inches the average amount in the corresponding period of sixty-one years. The recorded hours of bright sunshine during the three months ending Aug. 31st were only 380·3, out of 1440·4 during which the sun was above the horizon; in the corresponding periods of 1877 and 1878 the amounts of recorded sunshine were 602·9 and 507·3 hours respectively. Unfortunately the records of sunshine measured at the Royal Observatory do not reach back further than the early part of 1877. There can be no question, however, that the past summer has been unusually sunless, as the mean readings of the thermometer in the sun have been almost unprecedentedly low. Unpleasant as have been the meteorological conditions of the past summer, they have been remarkably favourable to the public health, and the English rate of mortality has been lower than that recorded in any three months since the establishment of civil registration in 1837.

INTERNATIONAL LONGEVITY.

ALTHOUGH the interest felt in vital and mortal statistics undoubtedly increases, the tendency to misapply and to draw unsound conclusions from such statistics shows but slight decline. *The Times* recently gave prominence to some statistics derived from the *Berlin Statistische Monatsschrift*, on the ground that they threw light upon the varying duration of life in different European countries. The subject is one of undoubted interest, but, unfortunately, the statistics in question give but little assistance in the way of estimating the comparative longevity of the various European populations; indeed, a little consideration will show that they are likely to lead to obviously false conclusions. The Berlin statistics show that at the census in 1872 the proportion of the population aged upwards of sixty years enumerated in France was equal to 11·5 per cent., whereas in Great Britain and Ireland in 1871 it did not exceed 8·6 per cent. It is suggested that these figures may be accepted as evidence of the comparative longevity of the French and English nations. The figures showing that 11·5 per cent. of the French nation were, on a given day, aged upwards of sixty years, whereas only 8·6 per cent. of the English nation were of the same age, somewhat naturally suggest the conclusion that greater longevity prevails in France than in England. Such a conclusion, however, is entirely erroneous. True longevity, or the mean duration of life, is considerably greater in England than in France, or indeed than in most other European countries. It is as fallacious to estimate the mean duration of life from the ages of the living as from the mean age of those dying. In order to ascertain the true mean duration of life it is necessary to take both these facts into account, and this can only be done by the construction of a life-table. The mean age of the living and of the dying is mainly dependent upon the rate of increase of the population, by excess of births over deaths. In the French population the large proportion of persons aged upwards of sixty years is due not so much to the large proportion of persons who survive to the age of sixty years, as to the abnormally small proportion of young children caused by the low birth-rate. In England, on the other hand, the proportion of young children in the population, due to the high birth-rate, is so large as to reduce the proportion of elderly persons. A life-table showing the proportion of a given number born who survive to the age of sixty years, affords the only trustworthy means of comparing the relative longevity of different nations. Any other method by which it is sought to calculate the comparative longevity in different populations is more or less fallacious. Among the least fallacious is the crude death-rate—that is, the proportion of deaths to population. Calculated from the death-rate in recent years, after due correction for the different proportions of age distribution, the mean duration of life in England considerably exceeds that which prevails in France. In countries where the rate of excess of births over deaths is nearly equal, the proportion of the population living at ages upwards of sixty years would afford some clue to the longevity of the people; but the wide difference between the birth-rates in France and England makes this method worse than useless when applied to those two countries.

SMALL-POX: ITS DISSEMINATION AND PREVENTION.

THE medical superintendent of the Fulham Small-pox Hospital, Mr. M. D. Makuna, in his report of the movement of patients in that hospital for 1878, has several instructive observations on the efficacy of vaccination, and on the dissemination of the contagion of small-pox. He especially comments upon the evidence of imperfect vaccination presented by many of the patients admitted, and takes occasion to direct attention to the careless method of vaccination which still to a large extent obtains in the profession. Notwithstanding the well-established standards both as to the number and nature of the marks which constitute the evidence of efficient vaccination, his observation shows that they are either unknown or neglected by many members of the profession. He examines the question of an assumed spread of small-pox from the hospital to houses in the vicinity, and shows that the assumption is quite gratuitous. Houses in the neighbourhood of the hospital suffered in common with contiguous districts of the metropolis, where no such assumption could apply, and there was no evidence of direct transmission from the buildings in any case. The circumstances chiefly contributing to the dissemination of small-pox in the metropolis are, according to Mr. Makuna, as ascertained by observation, the inadequate isolation of cases treated at home, particularly in shops; the concealment of cases; the migration of infected families; the visiting of servants and friends in infected localities; laundries; neglect of vaccination and revaccination of the household on the occurrence of the first case; and the out-door departments of hospitals and dispensaries.

HOW THE DREAD OF SEA-BATHING IS PRODUCED.

IT is pitiable to see little children "dipped" by remorseless bathing-women at the frequented watering-places. Parents do not consider how great is the present risk to which they expose their little ones by this practice, and how serious is the disability for future enjoyment they entail on children so treated. Many an adult who now dreads the act of submersion, and is deprived of the pleasure of the sea-bath, has to thank the conventional custom of "dipping" for the inconvenience under which he labours. It is easy to affirm that prejudices of this description should be surmounted by an effort of the will, but only those who are the subject of some fear or sensation which was created in

infancy, and has persisted ever since, can form an adequate notion of the strength of "prejudice" so impressed. It is far better to coax a child to paddle in the water than to compel or even coerce him to dip. If the head must be wetted, this should be accomplished by a sponge, not used as a shower-bath, so as to "take away the breath," but simply by way of washing. No possible harm can result from paddling, and it is well to begin in shallow and calm water, leading the child, or allowing it, to find its way into a greater depth gradually and playfully. The excitement caused by immersion is injurious at the time, and the aversion to bathing which it occasions is apt to prove seriously inconvenient in the future. The rough treatment experienced at the hands of a hideous and brusque bathing-woman has prevented many a boy from learning to swim.

THE WEATHER AND THE PLAGUE.

AN interesting contribution to our knowledge of plague, as it formerly prevailed in the metropolis, has been published in the latest issued number of the *Journal of the Scottish Meteorological Society*, by Dr. Arthur Mitchell and Mr. Alexander Buchan. They have studied the weekly progress of the disease as observed in the six years of special epidemic prevalence—viz., 1592, 1603, 1625, 1630, 1636, and 1665, and show that the fatality of the disease in each instance began to increase about the middle of June, that it increased rapidly through July and August, and reached a maximum in the first half of September. The mortality then fell, at a rate as rapidly as it had risen, through the last half of September, October, and November, and the first half of December. "The manner in which the plague, as a death-producer, appears to have obeyed weather," write the observers, "is striking and full of interest. It did so in exactly the way in which all diseases of the abdominal organs seem to be influenced by weather as causes of death. The curves for plague, indeed, are substantially the same as the curves for diarrhœa, dysentery, cholera, jaundice, &c. ..... Yet the accounts we have of the plague do not indicate that it can be regarded as essentially a disease of the gastro-enteric organs. These accounts are generally considered as pointing rather to an alliance with typhus, though it happens that nearly all notices of these six plague epidemics in London dwell on the vomiting of yellow or greenish-coloured matter in the early stage of the disease, and of the diarrhœa which usually set in on the third or fourth day, and continued to the end, the discharges being often sero-sanguine before death." Here, then, is material for a renewed consideration of this interesting subject.

OUR SICK SEAMEN AT LIVERPOOL.

THE last number of the *Nautical Magazine* contains an article on this subject, comprised in an account of the dispensary established some two and a half years ago by the committee of the Liverpool Sailors' Home, "for the purpose of providing seamen with medical attendance and medicines at the lowest cost, and thus protecting them from the numerous advertising quacks who infest Liverpool as well as most large towns." It appears that the dispensary was opened in 1877, and a total of 2310 patients have been treated, daily attendance being given by the officers between the hours of three and five only. The establishment is self-supporting, a shilling being charged for each and every attendance, while those who are starting at once for sea, and who cannot attend regularly, are supplied with extra medicines. No patients except those affected with venereal disease are treated. It is known that the provision for the treatment of such cases at Liverpool is very inadequate, for it appears that the male side of the Lock Hospital contains only twenty-five beds, and no out-patients are seen. As the *Nautical Magazine* remarks, sailors, as well as other men, dislike to attend the out-patient department of a general hospital to be treated for these diseases, and so, as might have been added, they fall into the hands of the quacks, who rob them in a wholesale and shameless manner, and send them empty away without effecting a cure. The writer quotes, among others, the evidence of Dr. Patterson, surgeon to the British Seamen's Hospital at Constantinople, in confirmation of the need that exists for some, at all events, modified medical examination of seamen before signing articles, and we really hope that that subject will next session receive the attention of Parliament. Meanwhile the self supporting dispensary at Liverpool is an important step in the right direction, and we congratulate both lay and professional managers on the great success that has attended their efforts to improve the sanitary status of the mercantile marine in the second most important seaport in the United Kingdom.

RABIES.

SOME interesting facts regarding rabies have been ascertained by M. Galtier. Canine rabies is transmissible to the rabbit, which becomes a convenient and inoffensive means of testing the virulence or non-virulence of different fluids of the body of a rabid animal. He has availed himself of this to study the virulence of the secretions of the rabid dog, sheep, and rabbit. The rabies of the rabbit is transmissible to animals of its own species. He could not say whether the virus is as intense in the rabbit as in the dog. The predominant symptoms in the rabbit are paralysis and convulsions. The duration of life, after the first manifestations of the disease, is from a few hours to one, two, three, and even four days after the disease has definitely declared itself. The period of incubation is shorter than in other animals, the average duration in twenty-five cases having been eighteen days. The administration of salicylic acid has no power to hinder the development of rabies in an inoculated animal. The saliva of a rabid dog, collected from the living animal and preserved in water, retains its virulence for twenty-four hours. Hence the water in a trough in which the rabid dog has allowed its saliva to fall in trying to drink, must be regarded as virulent, at least for this length of time.

DOCTORS IN THE AFGHAN WAR.

WHILE we have obtained a "scientific frontier" at a total expenditure of eleven officers killed in action or who died of wounds, we have lost no less than eight doctors ("non-combatants") in the front during the past three months; of these five died from cholera. Altogether we have lost twelve doctors in India in that short time. The following is a list:—

A.M.D.—Surgeon-Major Kilroy, cholera; Surgeon-Major Kelsall, exposure; Surgeon-Major Wallace, cholera; Surgeon-Major Wright, exposure; Surgeon De Caux, cholera.

I.M.D. — Surgeon-Major Neil, cholera; Surgeon-Major Galloway, exposure; Surgeon Christopher Lloyd, cholera; Surgeon M. E. Murphy, cholera; Surgeon Chatham Gray, cholera; Surgeon J. E. Walshe, cholera.

Although one honour was given to the A.M.D. at the liberal distribution of decorations for the Afghan war, the Indian Service was, as usual, left out in the cold.

There were five principal medical officers with the several columns; four belonged to the A.M.D., one to the I.M.D.; although of the troops employed 24,000 were native and 12,000 European. Three reserves of medical officers were also formed, each under the command of a surgeon-major of the A.M.D., although in each case all the surgeons told off to form these were I.M.D. men. The Indian Service highly appreciates the treatment it has received. Some of its

members have been ordered to join appointments in Central India, travelling from Jumrood *at their own expense* (this means a journey of 1800 miles) for their country's good.

VARIOLA AND VARICELLA: "A HARD CASE."

UNDER this sensational heading a daily contemporary has recorded the painful incident of an alleged mistake as to the nature of two cases of chicken-pox which were supposed to be small-pox, and placed in a small-pox hospital. The occurrence (if it really happened as related) is, indeed, most regrettable, and everything that can be done to repair the injury inflicted on an industrious family ought to be done ungrudgingly. At the same time, it may be permissible to remark that the consequences might have been much more grave had the reverse error been committed and a case of small-pox left to infect a district under the impression that it was one of chicken-pox. We should not be disposed to bestow further notice on the matter were it not for the following ungracious remark made by our lay contemporary:—"It is a reproach to modern medicine that the blunder which the present doctors are said to have committed is not at all an uncommon one for middle-class practitioners to make. The results are most serious, as those know who have had their families broken up and their homes disinfected at great expense, all because their children took chicken-pox and the doctor would insist on calling the malady small-pox." We were not aware that instances of this description of error were numerous. If it be the fact that they are, this also is to be regretted, but it must be said in apology for the doctors who are so deceived that they err with much excuse. The truth is that since vaccination has become common small-pox is so often modified when it occurs to patients who have been vaccinated in infancy that it is by no means easy to distinguish it from what is known as "chicken-pox." The vesicles are not uniformly depressed in the centre, and they do not follow the usual order as to the time or place of their appearance. It must have happened to many, if not most, practitioners, well versed in the clinical history of variola, to have had considerable difficulty in discriminating between cases of this malady occurring after vaccination, and varicella. It would be interesting and of advantage to the profession if those who have been perplexed by this difficulty could—following the example of Mr. Makuna (THE LANCET, Sept. 6th, 1879)—communicate their experiences with a view to place on record any trustworthy indications of the two diseases which may be available in practice.

THE LATE SURGEON KELLY, OF "THE GUIDES."

THE Indian Medical Service has sustained a loss in Mr. Ambrose Hamilton Kelly, the medical officer in charge of the ill-fated Cabul Embassy. Although no official announcement of his death has been received at the India Office, there can be little doubt that he perished with the other members of Sir Louis Cavagnari's staff in the massacre on the 4th inst. Mr. Kelly, though he had barely completed ten years' service, had been present in two campaigns, having served with "the Guides" throughout the Jowaki expedition of 1876 (medal and clasp), and having been present with the same regiment throughout the recent Afghan war. He was specially selected for medical charge of the Embassy to Yakoob Khan's capital, and since his arrival at Cabul had already commenced working with energy and enthusiasm at his profession. We learn that he started a dispensary in the city of Cabul, which was crowded with sick applicants at his morning and evening visits. Mr. Kelly, who was unmarried, was educated at Steeven's College, Dublin, obtained his commission as surgeon in the Indian Medical Service in 1869, and was appointed to the medical charge of "the Guides" in June, 1876. A medical officer of great promise, liked and respected by his brother officers, beloved by his men, his sad, but gallant, death will be much deplored by all ranks in his regiment.

ST. JOHN AMBULANCE ASSOCIATION.

SOME interesting proceedings took place a few days ago at the Snow-hill Police Station, when Sir Edward Perrott, Bart., of Plumstead, on behalf of the Duke of Manchester and the Chapter of the Order of St. John, presented certificates to the successful candidates at the recent examination of the classes lately formed, with the sanction of Colonel Frazer and Major Bowman, by the St. John Ambulance Association, among the City police, similar to those which have been in existence for over a year past among their brethren of the metropolitan police force. In the course of the evening an eloquent address was delivered by Major F. Duncan, R.A., D.C.L., the Director of the Ambulance Department, who exhorted the men not to rest satisfied with the information they had acquired, but to spare no trouble to extend it, and above all to keep knowledge so valuable in their daily calling fresh in their memories. All the police pupils were presented by the committee with copies of the handbook written for this purpose by the late Dr. Shepherd, killed at Isandlana. Among those present at the meeting were Major Bowman, Mr. John Furley (the well-known commissioner of the National Society for Aid to Sick and Wounded in War), Captain Perrott, Mr. Edwin Freshfield, F.S.A., and Surgeon-Major Baker, Grenadier Guards. Absence from town prevented the Lord Mayor from presiding.

Within the last few days Major F. Duncan has presented certificates of proficiency in the presence of crowded meetings at the Chesterfield, Barnsley, and Grassmoor collieries, and at Dorking.

ALLEGED DECOMPOSITION OF CHLORINE.

TOWARDS the close of last year, Victor and Carl Meyer, of Zurich, described a remarkably simple apparatus for the determination of the density of vapours. It permits the use of very high as well as of low temperatures, and does not necessitate the determination of the temperature or of the volume of the vessel used. The inventors of the instrument made a number of valuable determinations with it, many of which simply confirmed previous observations. But it fortunately occurred to them to determine the density of chlorine at various high temperatures. They prepared the chlorine in a state of purity by heating dry platinous chloride, $PtCl_2$, and removing all traces of water with the greatest care. Up to about 800° C. the density of the gas is normal—namely 2·45; but above that temperature it diminishes rapidly, and at about 1200° C. remains once more constant at about 1·62. This represents an increase of volume of exactly one-half, two volumes being converted into three.

What is the cause of this increase? The first and most obvious hypothesis is that an allotropic variety of the element is produced, and that the change is comparable to those which ozone and sulphur-vapour experience when heated. With ozone, indeed, the analogy appears perfect, for two volumes of ozone are converted by heat into three volumes of oxygen, and there are several remarkable points of resemblance between ozone and chlorine. But it is hardly possible that the change can be as simple as this. The atomic weight of chlorine, or, at any rate, the combining number of the substance we call chlorine, is, for very strong reasons, believed to be 35·4, the weight of two volumes being certainly 70·8. If these be the true numbers, we can only account for the new fact by supposing either that each so-called atom is really a cluster of three smaller ones, and

that the formula for chlorine gas is therefore M6 (M standing for the small, or sub-atom), or by proving that chlorine, so long supposed to be elementary, is really a compound.

Strange as it may appear, Messrs. Meyer's experiments have within the last few years shown the latter of these to be the more probable hypothesis. Chlorine gas, purified and dried with the utmost care, has, after strong ignition, been absorbed by iodide of potassium, and the result has been that a residue was found to remain which appeared to be *pure oxygen*. If this most interesting observation be confirmed, and the oxygen be shown to arise from the chlorine, and not, as seems possible, from water, one of the most important discoveries of modern chemistry will have become effected. All our ideas and very many of our formulæ will require revision, and it can hardly be doubted that a new era of investigation will have commenced. Already, it is said, similar facts have been observed in regard to iodine, and although the compound nature of the elements in question cannot as yet be said to be proved, it must be remembered that the mere discovery of allotropic variations is of vast importance. Probably we shall not have long to wait for more precise knowledge, for the facts will now be easy to find.

We will refrain under these circumstances from speculation, even in so tempting a field. There will be plenty of work for theorists as well as for practical men when the full truth is known. Taken in conjunction with the recent observations of Mr. Norman Lockyer these experiments really give us reason to hope that the chemical elements, so long the despair of philosophers, representing, as they do, the failure of their most potent agents, may at last be reduced in number, perhaps even to unity.

THE HEALTH RESORTS OF THE CAUCASUS.

THE number of patients who have this year flocked to Piatigorsk, in the Caucasus, in search of health, has been unusually great, being not less than 4000. In order still further to promote the welfare of this locality, and of other localities which may possess health-giving waters, the governor-general of the province has been seeking to induce the various lines of railway converging from Russia upon the province to give free passage to medical men desirous to visit the province in order to study the mineral springs of Piatigorsk and other places. In response to the governor-general's application, nineteen railway companies have undertaken to give free passes, two have offered to make an abatement of 30 per cent. in their fares, and one of 70 per cent.; while thirteen companies have declined either to give free passes or to lower their charges. The companies which have decided to give free passes require as a condition of their issue that the government department charged with the control of the mineral water sources shall certify to the presence of the medical men who receive passes at one or other of the sources.

THE BURNING OF SMALL-POX SHEDS.

THE guardians of the North Dublin Union have advertised the Glasnevin sheds for sale. It was in these sheds that the small-pox patients had been nursed, and the idea of distributing throughout the town, and by the hap-hazard medium of an auction, the bedding, the boards, &c., which had composed the hospital, naturally excited much indignation. Foreseeing this, the guardians had resolved, at a full meeting held on the 19th February, that these sheds and all that belonged to them should be burnt, as an example to the population and as the safest means of avoiding all chance of infection. At a more recent meeting, held by a smaller number of guardians, it was, however, decided to sell at least a portion of the Glasnevin sheds; and hence the advertisement which awakened the indignation of the capital. Thereupon the guardians met a third time, to discuss this matter, and, yielding to the force of public opinion, went back to their original resolution, ordering the destruction of the sheds. As these had been disinfected, the necessity of destruction may be questioned; but such, perhaps excessive, precaution cannot fail to produce a most beneficial effect on the mind of the population. The conflagration will serve as a startling illustration to familiarise the public with the importance of disinfection. If the authorities themselves take such energetic measures, private individuals will feel less aggrieved when the law enforces the observance of due precautions. Such lessons are more particularly needed in Dublin, where the small-pox epidemic has for so long triumphed over the efforts of the medical officers, and where many sections of the population still manifest the utmost indifference to sanitary laws.

THE NICOLAS CHILDREN'S HOSPITAL, ST. PETERSBURG.

WE learn from a report of this hospital for the past year, that in addition to 122 beds for children of from three to fourteen years of age, it contains a large ambulance for children of all ages. Children of the poor are treated at the cost of the hospital, but children of persons in easy circumstances are treated on payment of 10 roubles per month in the section of permanent beds, and of 10 copecs per visit in the ambulance section. A special ward is set apart for children who are paid for at the rate of from 20 to 60 roubles per month. Of 1111 children admitted into the hospital in 1878, 981 were treated at the cost of the hospital, and 130 at the cost of their parents or friends. The number of out-patients under treatment the same year was 13,343. In consequence of the outbreak of spotted typhus in the city, an isolated ward containing twenty beds was established for this infectious malady. Altogether 186 children suffering from the disease were treated in the ward during the outbreak. Of other infectious fevers admitted to the hospital for treatment, the following is the return:—Typhus (not spotted) 243, scarlet fever 303, measles 210, small-pox 124, diphtheria 64, croup 12. The hospital expenditure for 1878 amounted to 37,000 roubles.

LOCAL HEALTH GOVERNMENT, OTAGO.

A COLONIAL atmosphere appears to be not unfavourable to the retention of some of the most cherished home prejudices of local government, and even an antipodal position does not serve to unsettle them. The *Otago Daily Times* reports certain proceedings of the city council anent the medical officer of health, which on a first reading we were inclined to think referred to some small urban or to a rural sanitary district of England, and had been reprinted by our distant contemporary with a view of showing how much parts of the mother country were falling into the rear of progress. But a closer perusal compels us to admit that the report refers to Otago itself. The council has had under discussion the question whether it was really necessary to maintain a medical officer of health for a city containing 30,000 inhabitants. The present holder of that appointment, Dr. Gillies, appears to have done his work so well that a portion of the council hold that what now has to be done is to keep the city in the sanitary state to which it has been brought, and for that purpose an inspector of nuisances alone, they think, is needed. As one of the councillors expressed himself, "he considered the payment of a medical health officer, under existing circumstances, and under the circumstances that had existed for some time, as a waste of public money." The question has been postponed for further consideration by the city council, and let us hope that the postponement will lead to broader and sounder conception of a health officer's functions and of the relative value of health-economy and money-economy.

RETURNS OF DEATHS AND SICKNESS FOR MEDICAL OFFICERS OF HEALTH.

FEW things could more clearly show the blundering nature of the arrangements originally made by the Local Government Board for the carrying out of the Public Health Acts than the fact that it has recently been held necessary by the Board to issue a memorandum to sanitary authorities on the returns of deaths and of pauper sickness which should be supplied to medical officers of health. Seven years after the formation of the Board we find that this elementary provision for local sanitary administration is still not secured as it should be, and that sanitary authorities have to be instructed in what should have been a preliminary duty. The memorandum sets forth the sort of information on the subjects referred to which should be supplied to the medical officer, and the mode in which it is to be procured by the sanitary authority. It is significant that the performance of this duty is urged upon the sanitary authority in order that the medical officer of health may primarily carry into effect certain functions as to reporting required from him by the Local Government Board, and, secondarily only, with reference to the just performance of his duties in advising the local authority as to the circumstances calling for its action.

THE DAIRIES AND COWSHEDS ORDER.

THE borough of Sunderland has issued regulations for the cleansing of dairies, cowsheds, and milkshops under the Dairies Order of July, 1879, appending to them the provisions of the Order. The regulations provide for the thorough cleansing of cowsheds and their attached yards with water twice a day; the maintenance of cleanliness of troughs, mangers, grain-tubs, and other receptacles for feeding; the provision of proper covered places of deposit for dung and other refuse; the removal of this dung or refuse at least once a week; the lime-washing of the inner walls of cowsheds once in every quarter, and of dairies or milkshops once in every month, the floors of the latter to be well scrubbed and cleansed daily; the cleansing of all vessels used for the reception and delivery of milk with soda-and-water after each time of being used; and for the inspection of the places by an officer of the local authority at fitting times with the view of ascertaining the observance of the regulations.

THE MURCHISON MEMORIAL.

THE following medical officers in India and elsewhere are acting on behalf of the above:—Principal David Boyes Smith, Drs. Charles, Beatson, and Kenneth McLeod in Calcutta; Dr. Hunter and Dr. Vandyke Carter in Bombay; Dr. Furnell in Madras; Dr. Alexander Christison at Agra; Dr. Kinsey, Civil P.M.O., at Colombo. At Sydney, Dr. Maclaurin (late R.N.), and at Melbourne Dr. John Williams, are acting as representatives of the home committee.

Before these gentlemen were formally nominated a subscription-list was opened at Allahabad, and Mr. Shirley Deakin, of the Bengal army, was appointed secretary.

INFECTIOUS DISEASE IN ST. PETERSBURG.

A CASE of hæmorrhagic small-pox having occurred in St. Petersburg, and which ended fatally, but which had not during the illness of the patient been reported to the authorities, the Prefect has caused the attention of the medical men of the city to be drawn to Article 936 of the Municipal Sanitary Code. This article provides that in addition to the systematic returns of maladies coming under their observation which they have to make to the Council of Health, the Medical Bureau, and the medical delegations, they are required to give information to the local authority of the cases of infectious maladies which come to their knowledge—for example, maculated fever, small-pox, measles, scarlet fever, &c.—in order that the authority may take such measures as it deems fit for preventing the spread of the disorders.

WE regret to announce the death of Andrew Mungle, M.D., from typhoid fever, which took place on the 13th inst., at the Sunderland Infirmary, where he had been doing duty during the absence of the house-surgeon. Although he had been but a month at the infirmary, so highly was he esteemed that the whole of the medical staff and many of the members of the committee followed his remains to the station, where they were conveyed for removal to Edinburgh.

THE *Surrey Advertiser* reports that the urban authority of Guildford, at their last meeting, ordered the building of two vehicles, one to carry infected articles from houses, and the other in which to return them when disinfected.

SURGEON-MAJOR LEONARD KIDD, M.B., has been appointed to succeed Surgeon-Major F. Collins, M.D., in the Statistical Branch of the Army Medical Department, War Office, Whitehall-yard.

WE are glad to learn from Halifax that the 101st Regiment has quite recovered from the Cyprus fever which clung to it so tenaciously for months after leaving that island.

THE RETURN MARCH OF THE TROOPS TO PESHAWUR.

AN interesting narrative of the march of the 1st and 2nd Divisions, Peshawur Valley Field Force, has been drawn up by Surgeon-General Ker Innes for the information of the Commander-in-Chief in India. It appears that it was considered desirable, as soon as peace was concluded with the Ameer, that the force in northern Afghanistan in advance of the Khyber should be withdrawn. The advanced period of the season, however, and the fact of cholera having appeared in the Peshawur Valley and at Ali Musjid, furnished good grounds for believing that this could not be done without considerable risk. But there was also a great risk in retaining the troops in Afghanistan, as cholera had appeared at all the stations held by the 1st and 2nd Divisions of the Field Force, except Gandamuck, and there had been a considerable prevalence of enteric fever among the troops. The question was referred by the Government to Surgeon-General Innes, who, in consultation with Dr. Cunningham (the secretary commissioner), Dr. Bryden (the statistical officer), and Dr. Marston (secretary to the P.M.O.), came to the conclusion that the risk to be run by returning to Peshawur was not so great, compared with that of remaining through the hot season in the country, as to outweigh the political and financial considerations which pressed for the return of the troops.

As soon as this important question was settled, Surgeon-General Innes recommended the appointment of an experienced medical officer to be attached to the Quartermaster-General's Department, "charged with the duty of advising the military authorities in the selection of encamping sites, preservation of water-supply and sanitation of the several camps and rest-depôts *en route*, and specially with the initiation of the medical and hygienic arrangements for the troops on the line of march." For this important duty Surgeon-Major Porter was selected. Recommendations were also made as to the best arrangements for preserving the health of the men; but Surgeon-General Innes "left it to the medical officers' judgment to make such arrangements as might seem best calculated to serve the object in view," knowing that so much must depend on local circumstances. We do not propose to enter into a detail of the arrangements which were made, or of the circumstances attending the move of the troops; suffice it to say, that

everything appears to have been done in the interests of the men which could be effected by a zealous and intelligent staff, under very able superintendence. The 1st Division began its march on the 1st of June; the distance marched was one hundred and seventeen miles in twelve days; the longest day's march was fourteen miles, and the shortest six. The casualties from all causes amounted in the 1st Division to 6 combatant officers (3 of them natives), 3 medical officers and 1 of the transport service, 121 European and 54 native soldiers, and 34 camp followers; and in the 2nd Division to 35 European and 16 native soldiers, and 93 camp followers from cholera alone; those from other causes are not stated. The conditions under which the march was made were very trying—"excessive heat, dust-storms, not a particle of shade from Safed Sung to Peshawur, indifferent food, intolerable thirst with scarcity of water, and that which was available bad." The men suffered severely, and their distress was very apparent at the end of the march; many of them "staggered rather than marched into their tents, and threw themselves down utterly incapable of further exertion until refreshed by sleep and food." Under such circumstances it is remarkable that the loss was not much greater. The report goes on to state that "if there was one class worse than another it was certainly the medical officers and medical subordinates. Surgeon-Major Porter states that on the arrival at Hurri-sing-ka-Boorj most of them were in a painfully helpless and prostrate condition both mentally and bodily. This was attributable to the strain to which they had been subjected, almost incessant work night and day, coupled with that anxiety and depression which even the most indifferent and callous must share in the presence of so much disease, fatigue, and responsibility. Some had almost literally no relief from toil, as, from so many of their number becoming ill, the duties became doubled and trebled for those who remained at their posts. ..... The medical officers had been thrown entirely on their own resources in regard to the pitching and striking of tents, receiving no European assistance for this purpose. They had also to muster the doolie-bearers before marching, and drive them like so many cattle along the march. Others not entitled to draw forage were obliged to march on foot, and at the end to perform their professional duties when worn out by fatigue and excessive heat. The condition of the medical subordinates was in no respects better. While the troops were passing through Peshawur there were twelve medical officers on the sick-list at one time, and, according to the returns of the officers' hospital, the percentage of medical officers to total sick was 38·3." The most satisfactory testimony has been borne by commanding and other officers to the manner in which the medical officers in charge of the cholera hospitals did their work. We need add nothing to this graphic description of the hardships undergone by the medical staff in the discharge of their duty.

THE MILITARY HOSPITAL AT AMÉLIE-LES-BAINS.

(From a Correspondent.)

THERE are only four military hospitals (apart, of course, from those attached to the various garrisons) in France—viz., Vichy, Bourbonne in the Haute-Marne, Barèges in the Hautes-Pyrénées, and Amélie-les-Bains in the Pyrénées-Orientales. The three former are only open in the summer months, for the climate would not admit of invalids spending the winter either at Bourbonne or Barèges; but the last-named is used all the year round, and, having regard to the situation of Amélie-les-Bains, it is not too much to say that the winter patients derive more benefit than those who come during the summer. Situated in the extreme south-east of France, Amélie-les-Bains, which is within twenty miles of the Mediterranean, is sheltered by the Pyrénées upon almost every side, and, being only 750 feet above the level of the sea, escapes the snowstorms and cold winds which sweep the overshadowing mountains. The little town is built upon the right bank of the river Tech, which at this point flows in a narrow valley remarkable for its fertility, though that fertility is obtained by irrigation, for the annual rainfall in this part of France is very trifling. The climate is therefore extremely dry, and the mean temperature of the months from November to March inclusive is about 50° F. Nor does the temperature vary very much during these months, while another advantage is that the nights are not nearly so cold as they are at such places as Nice and Cannes, for instance. In fact, the climate of Amélie seems to be far superior to that of any other French winter-station, and, though the resources of the place are not sufficient to recommend it to English families, the selection of it for the site of what is practically a military consumption hospital was very creditable to the perspicacity of the French War Office. The hospital was not built, however, for this purpose, as General Castellane, who commanded the military division at Perpignan, which is the capital of the department, first had his attention drawn to Amélie-les-Bains by the excellence of its sulphurous springs, the chief of which, supplying nearly eighty gallons of water per minute (heat of water as it issues from the spring 143° F.), contains eleven milligrammes per litre. It occurred to him that a hospital built in close proximity to this spring would be very useful for the treatment of gunshot wounds, rheumatic affections, cases of anchylosis, skin diseases, and so forth, and he used his influence with King Louis Philippe to obtain the necessary funds. This was in 1846, and, the money being provided, the work was begun in the following year. Nor did the downfall of the dynasty hinder its progress in 1848. *Festina lente* is, however, the motto of all French administrations, and it was not until the year 1854 that the hospital was completed. The total cost, exclusive of the time spent by several companies of engineers in laying out the grounds, road-making, and so forth, was little short of a million and a half of francs (£60,000), but the work was thoroughly well done, and the hospital, so far as its structure and internal arrangements go, leaves little to be desired. Situated upon a broad ledge of rock overlooking the town, the hospital, properly speaking, occupies three sides of a square, two of which are reserved respectively for officers and non-commissioned officers, and the third for privates. Upon the ground-floor of the officers' wing there is a mess-room, ante-room, library, and one bedroom, while upon the first and second floors are thirty-two other bedrooms, each containing two beds. Thus it will be seen that sixty-eight officers can be accommodated in the hospital, and up to within the last three or four years the maximum number was eighty-eight, several of the rooms being provided with three beds. This arrangement was altered a few years ago, in deference to the wish of the medical staff; and it would be as well if their further recommendation of altering the size of the rooms, so as to let each officer sleep by himself, could be carried out. The non-commissioned officers and privates, of whom there are upon an average three hundred at a time, occupy the second wing, and the distribution of space is much the same as in the officers' wing, except that the first and second floors contain four large dormitories of eighty beds each. There are other rooms in the third side of the square, which can be made available when necessary, though the greater part of this building is occupied by the baths. Upon one side of the building is a large swimming-bath, several full-length baths, seven water-douches, two vapour-baths, and three vapour-douches, for the use of the officers; while upon the other side are baths and douches of an almost identical character for the non-commissioned officers. The privates have only a large swimming-bath, in which as many as fifty men can disport themselves at once. The water is brought down from its source, nearly a quarter of a mile off, by earthen pipes, and it is allowed to cool from 143° F. to 75° without being exposed to the open air, and consequently without losing its sulphurous properties. All these arrangements are very well conceived, and I may add that the hospital stands in the centre of extensive gardens, well shaded during summer, and that attached to it there is a chapel with a resident chaplain. The officers are often more numerous than would appear from the above figures, for besides those resident in the hospital, there are generally some living in the town, and, by permission of the authorities, taking their baths in the hospital.

With regard to the treatment of patients, it varies, as a matter of course, according to the nature of their complaint, and the medical officers are also empowered to alter the diet,

which, as an ordinary rule, is as follows:—Officers: coffee or chocolate at seven o'clock; bread, wine, two dishes of meat and one of vegetables and two varieties of dessert at ten; soup, boiled beef, entrée, roast, two varieties of dessert at half-past five. The non-commissioned officers and soldiers get coffee or beef-tea at seven; soup, ragout of mutton or veal and a dish of vegetables at ten; and soup, boiled beef, and vegetables at four, with the addition of dessert for the non-commissioned officers. Thus it will be seen that the patients are well cared for, and I can say from personal experience that the bread and wine with which they are supplied is of the very best quality, the Roussillon wine being noted for its strength, and that every precaution is taken to buy the best meat which the district produces. The officers are allowed to go out between the hours of breakfast and dinner, and again up to ten in the evening, and the non-commissioned officers are granted leave to do so by turns, about once every nine days; but the privates are confined entirely to the grounds, as when they were allowed to go out they were always getting into mischief.

The winter season, so called, commences on the 15th of November and closes on the 15th of March, and the hospital is then closed for a month to admit of its being thoroughly cleaned, being reopened on the 18th of April for the summer season, which lasts until the 15th of October, when it is again closed for a month, and prepared for the winter patients. In other words, it is open for ten months out of the twelve. Neither in the summer nor in the winter, however, do patients remain for the whole season, the length of their stay being limited to forty-five days, and one of the defects of the organisation is that this hard-and-fast line, to which scarcely any exception is made, operates injuriously inmany cases. The doctors complain that they are at times compelled to send away men almost on the verge of the grave, and whose only chance of recovery lies in remaining where they are. The mode of admission is also very defective; for the applications, made by the medical officers attached to the different army corps, upon behalf of such men as they consider likely to be benefited by a sojourn at Amélie, have to be sent in two months beforehand. It is evident that during this interval the man for whom the application is made may either have so far recovered that he does not require any treatment, or that his condition may have become so much more aggravated that the journey is a hopeless one, and yet no fresh examination of him is made previous to his start. If the application is granted, go he must. The consequence is that patients sometimes arrive at Amélie in almost robust health or in such a condition of enfeeblement that they do not survive the journey many days. This was not so frequent an occurrence when the hospital was at first opened as it is now; for, between the years 1854 and 1860, it was only used during the summer season, but in the latter year, when the warmth of the climate had been recognised as rendering the place so well adapted for consumption, this abuse began to make itself severely felt, and has not yet been remedied.

The number of patients, like their treatment, varies from year to year, but taking the figures for last year, as kindly furnished me by M. Hugo, the head of the financial and administrative department, it appears that there were 1500 admissions between the 15th of November, 1877, and the close of the summer season in 1878. These 1500 patients spent collectively 69,200 days, or forty-six days each upon the average, in the hospital, and there were nineteen deaths, which is four over the average for the last ten years. The cost of the hospital for a twelvemonth may very easily be estimated, for to the amount spent upon the maintenance of the 1500 patients in question, there only remain to be added the salaries of the staff and the repairs of the building itself. The cost of the patients, including food, medicine, lights and fires, washing, interments, and office expenses, fell a trifle short of £7000. The medical staff, at the head of which is M. Weber, with six subordinates and two chemists, cost £1200; the accountant and his four assistants, £600; a hundred hospital attendants £1600; the chaplain £80; and the sub-intendent, who has the supreme control over the whole staff, subject to the supervision of the superintendent of the Army Corps at Montpellier, receives £200 a year. The repairs average £600 a year, so that the total expenditure is £11,280. This does not include the travelling expenses of the patients, these being paid by their respective regiments, nor the uniforms and clothing, which are also comprised in the regimental accounts. But even if these items were added to the account it would still be a very moderate one as compared to the good which is done, and the French army is fortunate in the possession of a hospital which, whether as regards the manner in which it is conducted or the delightful climate of the region in which it stands, has been the means of saving many a precious life and healing many a stricken frame.

HEALTH OF LARGE ENGLISH TOWNS.

THE THIRTY-SIXTH WEEK OF 1879.

THE public health, judged by the Registrar-General's weekly mortality statistics, continues in a satisfactory condition. In twenty of the largest English towns, containing nearly a third of the entire population of England and Wales, 5240 births and 2709 deaths were registered last week. The births exceeded by 58, while the deaths were no less than 661 below, the average weekly numbers during 1878. The deaths were fewer by 22 than those returned in the previous week. The annual rate of mortality per 1000 persons living in these towns, which had been equal to 18·1 and 19·3 in the two preceding weeks, was 19·1 last week. During the ten weeks ending the 10th inst. the death-rate in these twenty towns averaged only 18·1 per 1000, against 24·2, 20·9, and 24·7 in the corresponding periods of the three years 1876–7–8. The lowest death-rates in these towns last week were 11·5 in Portsmouth, 14·0 in Sheffield, 14·4 in Bristol, and 15·0 in Bradford. The rates in the other towns ranged upwards to 22·8 in Leicester and Sunderland, 24·0 in Liverpool, and 26·3 in Norwich. To the seven principal zymotic diseases 566 deaths were referred last week in the twenty towns, showing a decline of 88 from the number returned in the previous week; 293 resulted from diarrhœa, and 103 from scarlet fever. The annual death-rate from these seven diseases averaged 4·0 per 1000 in the twenty towns, and ranged from 1·1 and 1·2 in Bradford and Bristol to 5·5 in Liverpool and Norwich, and 5·8 in Leicester. Scarlet fever showed the largest proportional fatality in Leeds, Manchester, Nottingham, and Sunderland. Only nine deaths were referred to diphtheria in the twenty towns, against 21 in the previous week. The fatality of measles and of whooping-cough showed a general decline. Small-pox caused 7 more deaths in London, but not one in any of the nineteen large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals further declined during last week from 103 to 99, and only 13 new cases of small-pox were admitted to these hospitals, against 35, 26, and 20 in the three previous weeks. Small-pox caused 9 more deaths in Dublin.

The fatal cases of diarrhœa in the twenty towns, which had steadily increased from 47 to 343 in the seven preceding weeks, declined last week to 293, which were equal to an average annual rate of 2·0 per 1000. The highest diarrhœa death-rates in the twenty towns last week were 2·8 in Leeds, 3·2 in Liverpool, 5·5 in Norwich, and 5·8 in Leicester.

THE THIRTY-SEVENTH WEEK OF 1879.

The condition of the public health continues exceptionally good. In twenty of the largest English towns, containing nearly a third of the entire population of England and Wales, 4998 births and 2640 deaths were registered in the week ending last Saturday. The births were 184, and the deaths no less than 730, below the average weekly numbers during 1878. The deaths showed a further decline of 69 from the low numbers returned in the two preceding weeks, and were equal to an annual rate of but 18·7 per 1000, against 19·3 and 19·1 in the two previous weeks. During the past eleven weeks of the current quarter the death-rate in these towns has not averaged more than 18·2 per 1000, whereas it was equal to 20·8 and 24·3 in the corresponding periods of 1877 and 1878. The lowest death-rates in these towns last week were 14·1 in Oldham, 14·7 in Plymouth, and 15·6 in Bradford; while the rates in the other towns ranged upwards to 21·3 in Newcastle-upon-Tyne, 21·6 in Nottingham, 22·3 in Sunderland, and 25·6 in Liverpool. The deaths referred to the seven principal zymotic diseases in the twenty towns, which had been 654 and 566 in the two previous weeks, were 560 last week, of which 275 resulted from diarrhœa, 94 from scarlet fever, and

72 from whooping-cough. The annual death-rate from these seven diseases averaged 4 per 1000 in the twenty towns, and ranged from 1·2 and 1·4 in Portsmouth and Plymouth, to 5·7 and 5·8 in Liverpool and Leicester. The high zymotic death-rate was due to diarrhœa, scarlet fever, and measles in Liverpool, and to scarlet fever and diarrhœa in Leicester. The fatality of diarrhœa showed a general slight further decline last week; the annual death-rate from the disease, which averaged 1·9 per 1000 in the twenty towns, was equal to 2·9 in Salford, and to 3·3 both in Leeds and in Leicester. Scarlet fever showed the largest proportional fatality in Sunderland, Leicester, and Newcastle-upon-Tyne. The 23 deaths referred to diphtheria exceeded the numbers in recent weeks. Small-pox caused three more deaths in London (and six in Dublin), but not one in any of the nineteen large provincial towns. The number of small-pox patients in the Metropolitan Asylum Hospitals further declined during last week to 79, from 111, 103, and 99 at the end of the three preceding weeks; and only three new cases of small-pox were admitted to these hospitals during last week, against numbers declining steadily from 35 to 13 in the four previous weeks.

Correspondence.

"Audi alteram partem."

TOXIC SYMPTOMS FROM THE USE OF DUBOISIN DROPS.

To the Editor of THE LANCET.

SIR,—The publication in your "Mirror of Hospital Practice" of the 6th instant, of some cases of poisoning from the application of duboisin drops to the eye, offers a long-sought opportunity for some remarks on this new mydriatic, which, with your permission, I will now avail myself of.

Within a few months of the introduction of the alkaloid of Duboisia myoporoides into ophthalmic practice, I was asked if I had observed toxic symptoms, such as giddiness and delirium, follow its application? I replied in the negative, and ascribed the alleged symptoms to some impurity in the particular specimen of the alkaloid that had been employed. But as time went on cases accumulated, and the circle of friends mentioning the occurrence of such symptoms widened, till this explanation no longer sufficed. Meanwhile my own experience preserved for the most part its negative character, although I very frequently had recourse to the drug. I could only account for this in two ways: first, I had from the beginning held that duboisin was far too strong to be prescribed indiscriminately, even if it were ever allowed to leave the surgeon's own hands; and second, having by me a considerable portion of the extract with which Dr. Ringer and I originally experimented (see THE LANCET, March 2nd, 1878, p. 304), I mostly used a solution of this instead of the alkaloid.

In March last I was induced to break my rule of not allowing patients themselves to have duboisin, and with the following result. About the time referred to I was asked by Dr. Ringer to see a gentleman under his care who had just been seized with a sharp attack of recurrent iritis in the left eye. From oft-repeated inflammation, the pupillary margin of the iris was so firmly bound down to the anterior capsule of the crystalline that we despaired of ever getting the pupil to dilate. Nevertheless, we resolved to try. Leeches were applied, and the pharmacopœial solution of atropia was dropped into the eye every ten minutes for an hour, and then at intervals of two hours. Several days were consumed by this mode of treatment, but with scarcely any appreciable dilatation of the pupil, although the pain abated. As an earlier experiment had given rise to the notion that the extract of duboisia was stronger than atropia, and later trials had shown that the alkaloid duboisin is unmistakably stronger, we determined to see whether duboisin would accomplish what atropia had failed to do. In many other respects the case was suitable. Our patient was not only an unusually intelligent man, but he had had twenty years of grievous personal experience in the treatment of iritis, and was, moreover (except for an ineradicable distrust of iridectomy), fully alive to the importance of energetic treatment. He could, therefore, be entrusted with more potent remedies than most persons. Accordingly we prescribed a solution of duboisin, four grains to the ounce, to be used every three hours, and with some impatience awaited the next visit. We saw him again next morning, and were somewhat disappointed not to find any signs of duboisin having done more than the atropia. While we were commenting on this, our patient broke out—"Oh! I could not use the new drops. I applied them once, but they made me so giddy I could not stand." To urge him to give the solution another trial would have been labour in vain. He had made up his mind to have nothing more to do with it, and so have I, except when I can apply it myself.

I have long felt that duboisin, like many other new remedies, has been, and still is, extravagantly abused. It is of immense power and value, and necessary only in special cases, for which it should be reserved. Bulk for bulk, it is much stronger than atropia, and should be employed with corresponding caution. I may add that the remarkable difference in the relative strengths of duboisin and atropia will be very strikingly shown by Dr. Ringer in a paper in the forthcoming number of the *Practitioner*.

I am, Sir, yours, &c.,

JOHN TWEEDY,
Assistant-Surgeon Royal London Ophthalmic Hospital.

Sept. 1879.

THE TARTAR STEPPES, ICELAND, &c.: THEIR IMMUNITY FROM CONSUMPTION.

To the Editor of THE LANCET.

SIR,—On my return from Ireland, I find in your journal of August 23rd last a letter from Mr. Cullimore, ex-surgeon to the Residency in Burmah, on the question of the value of mountain air in phthisis, and the immunity from that disease enjoyed by the inhabitants of the Tartar steppes, of Iceland, and the Shetland islands, as mentioned by me at Cork in the discussion following Dr. Bennet's paper read at the meeting of the British Medical Association.

Mr. Cullimore appears to regard my statement as favourable to the mountain-air theory, on the assumption that the steppes of Tartary are elevated some 3000 to 4000 feet above the sea level, and are in the same latitude (40° N.) as Naples or Madrid. On both these points he is in error.

A. von Humboldt ("Aspects of Nature," translated by Mrs. Sabine, 1849) states: "Steppe is a plain representing the bottom of a great Mediterranean sea." He visited the like districts of America, as well as the Kirghiz steppes between the Don, the Wolga, and the Chinese lake Dsaisang, these latter presenting an extent of nearly 2880 geographical miles. In the work just named (page 73) he says: "The erroneous idea of a single, vast, elevated plain, occupying the whole of Central Asia (the plateau de la Tartarie), took its rise in France during the latter half of the eighteenth century. The inaccuracies have now vanished. If the word 'plateau,' so often misemployed in modern works on geography, is to have its use extended to elevations which hardly present any visible difference in climate and vegetation, the indefiniteness of the expressions 'highlands and lowlands,' which are only relative terms, will deprive physical geography of the means of expressing the idea of the connexion between elevation and climate, between the profile or relief of the ground and the decrease of temperature. Lowlands is an expression for flats of little more than 200 to 1200 feet of elevation, and the definition of Steppe has already been given."

If we take the latitude of 40° N. in Tartary, we find ourselves on this side of the Caspian sea, amongst the Caucasian mountains; whilst to the eastward of that sea lies Turkestan, near the Aral sea, as to which little indeed is known of interest to medical science. In speaking of the Tartar steppes, what is really meant is the district of lowlands in European Russia from the Don to the Ural rivers, the plains on each side of the Wolga (45° to 55° N. lat.), and the towns between this last-named river and the city of Kasan. Kasan (according to Kupfer, "Voyage dans L'Oural, 1833," page 278) is only eighty Parisian feet above the sea-level of the Baltic, an elevation considerably decreased at Astrachan, at the mouth of the Wolga, and its embouchure into the

Caspian sea. This course of the Wolga from Kasan to Astrachan measures 225 geographical miles, and is only occasionally touched by the low-lying spurs or inferior ranges of the Ural mountains; whilst the plains between the towns of Samara and Ural to the north, and the Caspian to the south, are studded with salt lakes, marshes, and sands; vegetation is, nevertheless, abundant, and well sustains the splendid studs of mares which accompany the nomadic Tartar tribes.

The towns which have lately become more prominent in medical literature are Samara and Orenburg, and these are well described in Dr. Ucke's work, "Das Klima und die Krankheiten von Samara," Berlin, 1863. From this it is clear that Samara is but a few feet above the level of the sea, and that the Wolga yearly overflows the country on its right bank. Dr. O. de Maydell, Medical Inspector to the Russian Government in Orel (giving an account of six years' residence in Orenburg), and von Humboldt (passing through Orenburg with Ehrenberg and Gustave Rose) both state that Orenburg itself, notwithstanding its distance from the Caspian, lies below the level of the ocean. It is a curious and often-recorded fact that (as shown in Peterman's map of Russia in Europe) the Caspian is about eighty-five feet below the level of the Black sea, and that the Aral sea is 117 feet above the Caspian level, or thirty-two feet above that of the Black. Further evidence will scarcely be needed to convince Mr. Cullimore that the Tartar steppes which have any interest for the medical world (those, namely, known to possess immunity from consumption) are to be regarded, in respect to their elevation, as scarcely, if at all, above the level of the sea, in any part of their extent, whilst in some portions they are actually below such level.

With regard to Mr. Cullimore's scepticism on, as I think, the well-established absence of consumption in Ireland, his "difficulty of obtaining reliable information in such a remote and sparsely populated country," I would refer him to Dr. Arthur Leared's valuable articles on the subject in the *British Medical Journal* during January, February, and March, 1869, as well as to that of his friend, Dr. Hjaltalin of Iceland (*ibid.*, August 28th of the same year). Both writers have, in my judgment, sufficiently proved the fact that phthisis, when it does occur in Iceland, is never indigenous, but always imported from a foreign country. According to some authors (Samuel Hibbert, Horrebow, &c.) the Shetland, Faroe, and Hebrides islands are, like Iceland, almost entirely exempt from consumption; and the late Dr. Edward Charlton, of Newcastle-upon-Tyne, states in a published pamphlet that in Iceland and the Faroe islands phthisis is absolutely unknown, and that it was very rare in Shetland until the commencement of the present century.

In summing up these few considerations, on the hypothesis that consumption does not exist in the several countries which have been mentioned, how is such immunity to be accounted for? What is there in common in those countries likely to shield their inhabitants from this dreaded disease? Is there any agreement in the geographical position, the meteorology, the geology, the vegetation, the food, or even in the habits of the people? If such there be, it should be of the highest value in determining an interesting and most important question.

Speaking for myself, I have little belief in any *exclusive* influence of climate (whether upon high or low levels) upon phthisis, without a proper diet and medical treatment, either in preventing, arresting, or curing the disorder. Phthisis may, and does, arise from various causes, and, in assuming various forms, will, doubtless, require varied treatment; but I am aware that hopes of success may now be indulged which could not justifiably exist at any previous period of medical history.

The Tartar steppes are known to be visited mostly in summer, when the air is hot and dry and patients can drink and perspire most freely; but visits are not paid for the sake of the climate, but for that of the renowned beverage of the country, which beverage is considered to be a specific anti-phthisicum, and is consumed in the largest possible quantities. It is the belief of great numbers of medical men (as Drs. Ucke, Chomenkoff, Postnikoff, Maydell, Neftel, Schnepp, Stahlberg, &c.) that if anything whatever can be found to check consumption, the beverage just referred to (koumiss) is that something, and especially in a climate like that of the Tartar steppes during the summer. The general results so attained have been marvellous, and such as to surpass the benefits which have been obtained either by high altitude or by any other mode of treatment. Excellent evidence has already been forthcoming on the subject, and much more could be furnished in response to any general inquiry.

Coincidently it happens that in Iceland, the Faroe, and Shetland isles the favourite drink is likewise a partially fermented liquor made from whey—the serum of milk, and Dr. Charlton says that "in proportion as this drink (called 'Bland') has fallen into desuetude in Shetland, where we often enjoyed it forty years ago, and been substituted by tea and coffee, so has phthisis increased." Thus it is clearly to be shown that if no other resemblance can be indicated between the regions to which I have referred, there is at least that of a like dietary, the importance of which my own not inconsiderable experience, both in Germany and in this country, does not lead me to underrate.

I am, Sir, your obedient servant,

V. A. JAGIELSKI, M.D., M.R.C.P.L.,
Physician to the Infirmary for Consumption, &c.

Weymouth-street, Sept. 3rd, 1879.

A GALLANT ACT.

To the Editor of THE LANCET.

SIR,—I have read with much pleasure of the gallant deeds done by many of England's brave sons at the battle of Kambula and elsewhere throughout the war now happily drawing to a close, but nowhere have I seen publicly mentioned an act which, for bravery and coolness, has not been surpassed by any other in this campaign. Though reported officially to the Medical Department, a considerable time must elapse before it receives the recognition which it seems to deserve. Allow me, through the medium of your columns, to be the means of rescuing it from oblivion, in justice to two of my brother officers who already served with distinction in the Ashantee campaign.

During the hottest part of the action at Kambula, on the 29th March last, Private Daley, of the 90th L. I., who had sustained a severe wound of the upper arm, was carried to the Field Hospital; he was bleeding profusely, and it was found necessary to amputate his arm immediately. This was successfully done, under a very hot fire, by Surgeon D. Thornton, assisted by Surgeon A. Lennon Brown, A.M.D.

It is needless to remark that, even under the most favourable circumstances, the performance of a surgical operation requires the greatest coolness and steadiness on the part of the operator and his assistants. The best proof that these officers possess such qualities in a marked degree lies in the fact of their having saved their patient's life under such very trying circumstances. I am happy to state the man made a good recovery. Had the operation been deferred until the termination of the action, the man would, in all human probability, be amongst his dead comrades of the 90th.

I am, Sir, your obedient servant,

CHARLES MCD. CUFFE,
Surgeon-Major, Senior Medical Officer, Wood's Column.

Camp, Wood's Flying Column, Zululand, July 22nd, 1879.

HARVEY'S REMAINS.

To the Editor of THE LANCET.

SIR,—As nothing has been done since Dr. Richardson wrote his interesting paper a year ago, I venture to trouble you with this letter. I paid a visit to the Harvey vault in Hempstead Church on August 26th, and was amply repaid for my trouble. The church is worth a visit, and the drive from Saffron Walden is very pretty. Something should be done at once to preserve the remains from further decay, and if they cannot be transferred to Westminster I think at any rate they might be put into another lead coffin and removed to another portion of the vault where the wet cannot reach and stones be thrown. The expense of this would be trifling, providing the consent of the family can be obtained. It appears there are only female descendants of the family left, and this may account for the state of the vault; the bars of the windows want repairing, and some close wire netting placed to prevent stones and dirt getting in.

To restore the church would cost a great deal, although the building is well worth it; it can be seen for some miles,

and is a pretty building. There are some brasses on the floor, more than I have seen in any other village church, and the monuments in the Harvey chapel are very fine, but whitewash and white paint have spoilt the interior of the church and would make a modern church builder groan. A small subscription would do all I propose, and I should be glad to see it done. If Dr. Richardson will take the matter in hand I am sure it will soon be accomplished.

I am, Sir, yours, &c.,

March, Cambs, Sept. 7th, 1879. W. EASBY, M.D.

CONSULTEES AND GENERAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—As the question of dealings between consultees and general practitioners has for some time been very freely discussed, I beg to offer the result of my experience. It is to be regretted that these discussions seem to have been based upon a feeling that there was a want of integrity on the part of the consultees in their relations with the general practitioner.

The consultees are said to be in fault in two ways: (1) That they take away, or try to take away, knowingly, the patient from the general practitioner; and (2) that they see patients at a less fee than is customary in consulting practice.

To the first charge there can be no defence for the consultee, if such practice, as is alleged, be true. In regard to the second charge, I would wish to give two instances of the difficulties which I, a junior member of the profession and a consultee, meet with in trying to uphold the interests of the profession. Last week a lady consulted me about her throat. She was suffering from congestion of the pharynx, and her general health was bad. I treated her for the local condition and for her general state as well, and wished her to see me every other day for about a week or ten days. At the third visit she expressed herself as feeling much better. On the termination of this visit, which lasted over a quarter of an hour, and was fully occupied in conversation about her health, she said that her husband thought that a guinea for simply brushing the throat was too much. I was on the point of replying that I would see her for half a guinea if she would limit the duration of each visit to two minutes, the time necessary for applying the brush, but I refrained from so doing, as I did not wish to act otherwise than professionally, and because I had strong grounds for believing my patient to be in wealthy circumstances. This patient had come to me, I may say, after finding a physician, to whom she had been recommended, out of town.

The other instance is that of a gentleman who consulted me for cancer of the epiglottis, who wished to come to my house when he was able to do so, but that I should go to his house in the suburbs when necessary, for less than the ordinary fee in either case. I inquired who was his medical attendant that I might write to him and say what I thought about the case. This was declined on the ground that his doctor had told him that he could do nothing further for him. Of course, under such circumstances, I was free to act independently, and declined to take less than the customary guinea fee. I learnt afterwards that my patient went to another consulting surgeon, and remained under his care, coming to me after four months' interval to ask once more my opinion of his case, returning to the other surgeon to continue the treatment. It is my custom to lessen my fees to those whom I may consider are unable to continue paying the guinea honorarium for an extended period.

In the first case which I have given there could be no doubt as to the ability to pay, neither could there be any doubt in the mind of the patient as to the shortness of the treatment required. In the second case I was uncertain whether the patient's means could allow of a continued series of visits, but as there was hope, though very slight, that the disease, which was in an early stage, might be of a specific nature, and consequently require lengthened treatment, I felt that the visits would have to be so few and far between that he could afford to pay, and that I should not be justified in taking less than the ordinary fee. In both these instances I have lost two patients, who, if they had not brought to me many fees, at least would have added to my connexion.

It has happened to me in my small experience that a letter, if not two, which I have written to general practitioners relative to the nature of their patients' cases—patients who have come to me without the introduction of these gentlemen—have forgotten, let me trust through press of occupation, to reply to me.

I remain, Sir, yours truly,

August 30th, 1879. W.

To the Editor of THE LANCET.

SIR,—The letter of "Medicus," in THE LANCET of Aug. 30th, points out an evil, which I am sorry to find is by no means a small one, in the relations which exist between the consulting physician and the general practitioner. I have talked with many medical friends in different parts of the country] and they, like myself, have had to complain of patients sent *by them*, and going *up under* their advice, becoming *absorbed* by the consultee, who has told them he should like to see them again in a fortnight, and so on. I regret to say also that in many instances the same consultees' names have been mentioned to me. I need hardly say that we have profited by experience, and in the future have sought for a second opinion from those whom we feel we can trust.

Yours obediently,

September, 1879. A GENERAL PRACTITIONER.

THE WEST CHESHIRE PROVIDENT DISPENSARY.

To the Editor of THE LANCET.

SIR,—In a brief note among the answers to correspondents in THE LANCET of Sept. 6th, you draw attention to what you believe to be a fault in the scheme of the West Cheshire Provident Association—viz., the want of satisfactory provision for the exclusion of unfit persons or classes.

Will you permit me to say that it appeared to the promoters that the only persons it was desirable to exclude were those whose average earnings would enable them to pay ordinary fees for medical attendance, and thus the following rule was adopted:—"The provident members are those who make the prescribed payments, and are thus entitled to receive the aid of the institution. Persons whose average gains do not exceed forty shillings a week are eligible for membership, unless the average earnings of a father, and his children under sixteen, amount to more than forty shillings a week, in which case they are ineligible, except under special circumstances."

The Committee of Management will, of course, take care that no person of notoriously bad character is admitted, and have power to remove a member from benefit where his illness is directly due to his own misconduct. An applicant for membership actually suffering from illness requiring medical treatment will be called upon to pay an entrance fee of ten shillings in advance, his admission being then subject to the approval of the medical officer summoned.

The expression, "no class restrictions," in the handbill first issued by the association, is a little unfortunate, and inasmuch as it is liable to misinterpretation, should not have been inserted. All that it was intended to imply was that a poor clerk or petty shopkeeper, whose sole earnings did not exceed twenty or thirty shillings a week, should be placed upon the same footing as a skilled or unskilled labourer or artisan paid at the same rate.

I am, Sir, yours sincerely,

Birkenhead, Sept. 10th, 1879. FRANCIS VACHER.

THE BREAK-DOWN IN THE ARMY MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Report has it, and I believe the report to be quite true, that the promised Warrant to the Army Medical Department has fallen through, the Treasury having refused to grant the money requisite. It is hardly credible that a rich country like England would allow a few thousands a year to stand in the way of resuscitating and making efficient this very important public department, but such all through has been the penny-wise and pound-foolish policy of those in authority. It is only fair that intending candidates for the

department should be made aware of this fact as soon as possible, so that they may turn their attention otherwise; for though there are many ready to join the service provided the Committee's recommendations were carried out, few would be found hardy enough to do so under its present *régime*, and to those few perhaps you will extend the warning voice, and advise them to do anything rather than don the uniform of the

Sept. 9th, 1879. A. M. D.

THE HOSPITAL FOR CONSUMPTION, BROMPTON.

To the Editor of THE LANCET.

SIR,—May I be allowed to inquire whether there were published any Annual Reports of the Hospital for Consumption, Brompton, in the shape of Guy's or Bartholomew's Hospital Reports for the last year, more particularly for the year 1878?

DR. STANISLAUS PONIKLO,
Assistant to the Medical Clinique, University, Cracow.

Cracow, September 7th, 1879.

BIRMINGHAM.

(From our own Correspondent.)

THE medical officer of health, Dr. Hill, has made an official inspection of the Birmingham Eye Hospital, and has reported on its sanitary condition to the Health Committee of the Town Council. He was accompanied on his visits by Mr. Goodman, the chairman of the hospital, the architect, and by Messrs. Chesshire and Eales, two of the honorary surgeons, each of whom freely afforded Dr. Hill all requisite information. This examination into the sanitary state of the institution has been rendered necessary by an account of its condition having lately appeared in one of the medical journals, which spoke very strongly in condemnation of the arrangements of the building, and especially of the means of ventilation, and at the same time imputed grave neglect to the Committee. Dr. Hill's able and exhaustive report not only exonerates the Committee from these charges, but shows that they have used every possible effort to provide for the health and well-being of the patients. It also states that the means of ventilation are as ample as the construction of the building will admit of, and that all the newest and most modern appliances have been adopted to promote free ingress and egress of air. The drainage has received the closest care and attention, and all sewer gas has been effectually excluded. While thus doing full justice to the efforts of the Committee to render the hospital as healthy as such a building can possibly be made, Dr. Hill most strongly pronounces it unfit for the purposes of a hospital. The amount of space allotted to each in-patient is far below the proper average. The out-patient rooms are too small for their requirements, and are constantly overcrowded, and from their position the effluvia from their occupants are necessarily diffused through, and contaminate the wards and day-rooms. This state of things is said to produce diarrhœa and vomiting in persons recently admitted into the hospital, to cause a low type of fever to attack persons before they are operated on; and patients upon whom operations have been performed are frequently the subjects of suppurative cellulitis. It has been proposed as a medium course to gut the present building, merely retaining the outside walls. From the fact that this would necessitate a five-storey building, and that the out-patient rooms would be consequently placed under the wards and sleeping rooms, Dr. Hill most unhesitatingly condemns the proposal, and advises the erection of an entirely new building in some other situation. As the Committee have already £4000 in hand, and the freehold of the present valuable site belongs to them, they will have little difficulty in raising the remainder of the money necessary to accomplish this desirable object. Since the publication of Dr. Hill's report Mr. J. V. Solomon, one of the surgeons of the hospital, has addressed a long letter to a local daily paper, calling in question many of the facts submitted to Dr. Hill, and stating "that he fails to find evidence of deteriorated health among the patients who reside within the hospital walls." These opinions, I understand, are not shared by the rest of the medical staff.

The annual meeting of the Deaf and Dumb Institution has just taken place under the presidency of Lord Norton. This charity is doing a large amount of good work, having 108 children upon its books. The number of candidates for admission at the present time is seventeen—namely, eleven boys and seven girls. The committee have determined to admit the whole number without election as they have sufficient space at their disposal. I was pleased to be informed that a class of ten children has been taught on the German, or oral system, since October last, and that the pupils composing it have made great progress in speaking and in reading on the lips. The only jarring note was the too common complaint of a deficiency of income over expenditure of nearly £400.

Dr. Gibson, one of the assistant-physicians of the General Hospital, having resigned his appointment, several very excellent candidates have offered themselves for this office.

Birmingham, September 17th, 1879.

Obituary.

MR. THOMAS TATUM, F.R.C.S.

THIS distinguished surgeon expired on the 5th inst., at the residence of his son-in-law, Eastbourne, aged seventy-seven. Through failing health he had for some years withdrawn from active practice.

Mr. Tatum was born at Salisbury, where he received his preliminary education, immediately after which he commenced his professional studies at St. George's Hospital and in Great Windmill-street, finishing them in Paris. On his return from the French capital in 1827, he was appointed house-surgeon to St. George's Hospital before he had passed any examination. This, however, he did the following year, and became a member of the Royal College of Surgeons on June 28. In 1830 he was associated with Mr. Herbert Mayo in teaching anatomy in the old Hunterian School in Great Windmill-street. At the opening of King's College the following year, and on the election of Mr. Mayo to the professorship of Anatomy in that school, a separation took place, and on the institution of the anatomical school in Kinnerton-street, in connexion with St. George's Hospital, he was appointed lecturer on Anatomy, and performed the duties of this office until he succeeded to the lectureship on Surgery, which he retained until 1867. He had previously (1840) been elected assistant-surgeon. When the new charter was granted to the College of Surgeons, he was one of the first of the 300 members elected to the honorary fellowship of that institution, and in 1857 he took his seat as a member of the Council of the College. When he resigned the surgeoncy of St. George's Hospital, his former pupils and many friends attested their kindly feelings towards him by presenting him with a testimonial.

Mr. Tatum was of a very reserved and retiring disposition. He was little met with in medical societies, and rarely spoke at any. His contributions to the literature of the profession were a paper in Holmes's System of Surgery "On Injuries and Diseases of Muscle," a paper read before the Royal Medical and Chirurgical Society "On Tumours in Muscles," and some papers in THE LANCET and in the *Medical Times and Gazette*. He was a remarkably neat dissector, a dexterous operator, a fluent lecturer, no mean naturalist, and a good linguist. When he commenced the practice of his profession a successful career was foretold for him, but his feelings and inclinations rather induced him to eschew private practice. He was a gentleman in the true sense of the word, genial in disposition, tolerant of the opinions of others; he never made an enemy, but a great many attached friends, who lamented that the state of his health enforced his retirement from social life. He leaves by a second marriage a son, a member of the profession. His first wife was a daughter of Mr. William Brodie, M.P. for Salisbury, and niece of Sir Benjamin Brodie, Bart.

DR. JAMES GORDON INGLIS, C.B.

WE regret to announce the death of Surgeon-General J. G. Inglis, by heart disease, at Jersey on the 6th instant. This officer was educated at Glasgow, where he took the degree of M.D. in 1836. In 1838 he passed the Royal College of Surgeons of Edinburgh, and in the following year entered the army as Assistant-Surgeon of the 87th Regiment. In April, 1843, he was removed to the Staff, and proceeded to India, where, in November of the same year, he was gazetted to the 10th Regiment. With this corps he served through the Punjaub campaign of 1848–9, including the siege of Mooltan, and was present at the battle of Goojerat. In March, 1852, he was promoted to the surgeoncy of the 64th Regiment, and served with it in the Persian campaign of 1856–7. He was with his regiment in Bengal and North-West Provinces during the mutiny in 1857–8, and was present at the defence of Cawnpore and defeat of the Gwalior mutineers, the actions of Kala Nuddee and Kerkeroulie, the capture of Bareilly, and affairs of Shahjehanpore, Bunnie, and Mahomdie. He was promoted to surgeon-major in 1859. In 1861 he returned home, and in 1863 was promoted to be deputy inspector-general, in which rank he proceeded to Madras. In 1868 he returned to England, where he remained till 1871, when he was again sent to Bengal. In March, 1875, on promotion to the rank of surgeon-general, he was removed to Bombay as principal medical officer, in which capacity he continued to serve till October, 1876, when he was placed on the retired list after a service, on full pay, of upwards of thirty-six years. He received a medal with two clasps for the Punjaub, a medal with clasp for Persia, and a medal for the mutiny; and was made a Companion of the Military Order of the Bath for his services in India. He was a zealous and efficient officer, a great favourite in the 64th Regiment, and deservedly very popular with the officers of the Army Medical Department.

Medical News.

INDIAN MEDICAL SERVICE. — The following is a list of the candidates for the above service who were successful at the competitive examination held at Burlington House on Aug. 28th and following days. Thirty-nine candidates competed for sixteen appointments (afterwards raised to seventeen). All were reported qualified :—

	Marks.		Marks.
J. W. O'Macnamara	2185	J. L. Poynder	1965
F. Burness	2141	C. J. Willis	1960
G. W. S. Dennys ..	2130	F. C. Reeves	1925
H. O. Stuart	2083	A. R. Campbell, M.D.	1920
J. C. Marsden	2050	J. M'D. Stewart	1900
A. C. Thompson	1995	J. Sykes	1900
J. F. Tuohy, M.D. ..	1985	J. Hoey	1865
G. J. Ward	1975	A. G. Collington	1860
C. A. Daubeny	1970		

APOTHECARIES' HALL. —The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 4th and 11th of September :—

Churchouse, William John Franklin, Chard.
Fisher, Frederick Charles, Cadogan-place.
Fooks, George Ernest, Harrow.
Leech, Henry Richard, Birmingham.
Pearce, Henry, Eastbourne.
Thomson, George James Crawford, Newington.
Vachell, Edward Shearman, Bath.
Woodhouse, Tom Percy, Pontefract, Yorkshire.

The following gentlemen on the same days passed the Primary Professional Examination :—

Edwin Deane, Charing-cross Hospital; Francis Charles Gibbs, Edwin Collier Green, and Edwin Francis White, St. Thomas's Hospital; Francis Wm. Edward Kinneir, St. Bartholomew's Hospital; George Pollard, St. George's Hospital.

DR. CRERAR and Dr. LOVEGROVE, of Hythe, have been placed on the Commission of the Peace for the borough.

DRAINAGE AND SEWERAGE OF DUBLIN.—Mr. Rawlinson, C.E., one of the commissioners appointed to inquire into the house-drainage and sewerage of this city, has arrived in Dublin, and no time will be lost in holding the inquiry.

DANIEL J. LYNE, M.D., of Berehaven, has been appointed to the Commission of the Peace for the County Cork.

THE Bridgwater Guardians and Rural Sanitary Authority have reduced the salary of the medical officer of health from £100 to £80 per annum.

WHOOPING-COUGH has been very prevalent in Belfast for some time, and during the three months ending August 30th, sixty deaths were recorded as occurring from the disease. In Dublin, during the same period, only fourteen deaths took place from this cause.

A NEW Convalescent Home has just been opened by the Bishop of Ripon and Miss Beckett, of Somerby-park, at Meanwood, near Leeds. The building will accommodate eighteen children, and great care has been taken in all the sanitary departments, so as to ensure good air, effective drainage, &c.

CAMBRIDGE SANITARY SCIENCE CERTIFICATES.—The next examination for Sanitary Science Certificates at Cambridge will begin on Tuesday, October 7th. Candidates (who must be on the Medical Register of the United Kingdom) should send their applications to Professor Liveing, Cambridge, before the end of September.

SLIGO WATER-SUPPLY.—A Committee of the Sligo Corporation have at present under consideration the desirability of obtaining a proper supply of water for this town. Two schemes have been suggested, one from a mountain source, and the second a pumping arrangement, by which it is intended to obtain the requisite supply from Lough Gill.

VOLUNTEER AMBULANCE DEPARTMENT.—Surgeon William G. Shepherd, M.D., Victoria Rifles, will conduct the next class for the instruction in ambulance and stretcher drill, at the Guildhall, of volunteers from the metropolitan corps. No less than 750 volunteers have received certificates of successful examination in stretcher drill and surgical assistance to the wounded.

TESTIMONIAL.—Mr. J. Ireland Bowes, M.R.C.S. Eng., Assistant Medical Officer of the Northampton County Asylum, upon his marriage with Miss Butlin, of Duston House, Northamptonshire, has been presented by the officers and staff of the asylum with a handsome timepiece and pair of vases, the former bearing the following inscription—viz., "Presented to John Ireland Bowes, Esq., M.R.C.S., by the officers and staff of the Berrywood Asylum, as a token of their respect and esteem, upon his wedding-day, August 14th, 1879."

PERTHSHIRE MEDICAL ASSOCIATION. — A preliminary meeting of the medical profession of Perthshire was held some time ago to consider the propriety of forming a Medical Association for the county and surrounding district. It was then unanimously agreed that such an Association should be formed, and rules were drawn up for the conduct of its affairs. The first monthly meeting of the Association was held in the directors' room at the infirmary a few days ago, when the following gentlemen were elected office-bearers: Dr. Frew, President; Dr. Robertson, Stanley, Vice-President; Dr. Baird, Secretary; Dr. Graham, Treasurer; and Drs. Bramwell, Nairn, Irvine (Pitlochry), Morrison (Dunning), and H. W. Laing (Bridge of Earn), members of Council. A paper was then read by Dr. Bramwell on Nerve-stretching in Sciatica, with cases. As already over one-half of the medical men in the county have become members, the success of the Association seems assured.

BEQUESTS ETC. TO MEDICAL CHARITIES.—Mr. Charles Landseer, R.A., of Grove-end-road, St. John's-wood, bequeathed £500 to the Middlesex Hospital. Mrs. Parker, of Burnley, bequeathed £200 each to the Manchester Infirmary, the Manchester Eye Hospital, and the Royal Albert Asylum for Idiots and Imbeciles at Lancaster, and £100 to the Blackburn and East Lancashire Infirmary. Mr. W. Dent has given £100 to the Westminster Hospital. Mrs. Frances R. P. Farrer, of Bath, bequeathed £100 each to the Bath United Hospital, the Ventnor Hospital for Consumption, and the Hospital for Diseases of the Throat. Miss Emma Tylney Long, of Madehurst Lodge, near Arundel, bequeathed £100 to the Sussex County Hospital. The Monmouth General Hospital and Dispensary has received £100 under the will of Miss Hales.

Medical Appointments.

ADAMS, J. D., M.D., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Martock, Somersetshire, vice Westcott, resigned.

BALDWIN, F. B. I., M.R.C.S.E., L.S.A.L., has been appointed Second House-Physician to Guy's Hospital for the month of October.

BARRETT, R., M.D., has been appointed a Medical Officer, Public Vaccinator, &c., for the Glengarriff Dispensary District of the Bantry Union (on its being divided), at £90 per annum and fees, and £10 per annum as Medical Officer of Health.

BOAST, B. R., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Officer to the Agincourt Lodge of Odd Fellows, Wymondham, Norfolk, vice Clarke, deceased.

BROWNE, H. L., L.R.C.P.Ed., M.R.C.S.E., has been appointed Certifying Factory Surgeon for the District of Oldbury.

BROWNE, J. W., M.D., M.R.C.S.E., has been reappointed a Surgeon to the Belfast Royal Hospital.

BRUCE, J., M.B., has been appointed Admiralty Surgeon and Agent at Kirkwall, Orkney.

CROOKE, G. F., M.R.C.S.E., L.S.A.L., has been appointed House-Physician to the Seamen's Hospital, Greenwich, vice de Fonmartin, whose appointment has expired.

DAY, E. J., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Dorchester Urban Sanitary District, at £21 per annum, vice Good, resigned.

DUNCAN, S. E., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Assistant Medical Officer to the Metropolitan Asylum District Asylum for Imbeciles at Caterham, vice Thurnam, appointed Assistant Medical Officer to the City and County Lunatic Asylum, Stapleton, near Bristol.

DYER, A. K., M.D., L.R.C.P.Ed., has been appointed Medical Officer of Health for the Mansfield Rural Sanitary District, at £80 per annum, until September 29th, 1882, vice Beevor, deceased.

ELLIS, H. D., M.B., has been appointed Medical Officer in charge of H.M. Military Hospital and Troops in the Eastbourne District, vice Hicks, resigned.

FULLER, T. W., M.R.C.S.E., has been appointed Junior House-Physician to Guy's Hospital for the month of October.

GLANVILLE, F. F., M.R.C.S.E. & L.S.A.L., has been appointed Resident Surgeon to the Ramsgate and St. Laurence Dispensary, and House-Surgeon to the Seamen's Infirmary, Ramsgate, vice Collett, resigned.

GWYNN, E., M.D., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Parish of St. John, Hampstead, at £125 per annum, vice Lord, resigned.

HANDFORD, H., M.B., C.M., M.R.C.S.E., has been appointed Assistant House-Surgeon to the General Hospital, Nottingham, vice Cant, appointed House-Surgeon to the Lincoln County Hospital.

HARTLEY, J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Leavening District of the Malton Union, Yorkshire, vice Beck, deceased.

HARVEY, G. H., M.R.C.S.E., L.S.A.L., has been appointed House-Physician to the London Hospital.

HERON, G. A., M.D., has been appointed Physician to the West-end Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy.

HEY, E., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Assistant Medical Officer to the Portsmouth Lunatic Asylum.

JONES, F. F., M.R.C.S.E., L.S.A.L., has been appointed Senior House-Surgeon to Guy's Hospital for the month of October.

KARKEEK, P. Q., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Torquay and St. Marychurch Urban Sanitary Districts, at £300 per annum, for four years, from the 29th instant.

LAWLER, J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Attendant to the Royal Irish Constabulary, Finnea, co. Westmeath, vice Loverock, resigned.

MACLOUGHLIN, T. J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Certifying Factory Surgeon for the District of Clara, King's County.

MURRAY, A., M.B., has been appointed Assistant-Surgeon to the Newport, Mon., Oddfellows Medical Aid Association, vice Dowse, resigned.

PENNY, E., M.R.C.S.E., L.S.A.L., has been appointed Second House-Surgeon to Guy's Hospital for the month of October.

POLAND, J., L.R.C.P.L., M.R.C.S.E., has been appointed Junior House-Surgeon to Guy's Hospital for the month of October.

RYLEY, H., L.R.C.P.L., L.R.C.P.Ed., has been appointed Medical Officer and Public Vaccinator for the Parish of Cradley, in the Bromyard Union, vice Peniston, resigned.

SMITH, W. H., M.R.C.S.E., L.S.A.L., has been appointed Assistant House-Surgeon to the General Infirmary, Hull, vice Robinson, appointed House-Surgeon.

STEELE, R., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed House-Surgeon to the Seamen's Hospital, Greenwich, vice Dunn, resigned.

TONGE-SMITH, W., M.B. &c., has been appointed Resident Medical Officer to the London Fever Hospital, vice Prowse, resigned.

WALKER, W., M.D., C.M., has been appointed Certifying Factory Surgeon for the District of Grangemouth, Stirlingshire, vice Watson, deceased.

WHITE, E. A., M.D., has been appointed Certifying Factory Surgeon for the District of Margate, vice Treves, resigned.

WHITE, R. W., L.R.C.P.L., M.R.C.S.E., has been appointed Senior Obstetric Assistant to Guy's Hospital for the month of October.

WILLS, C., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Southwell and Worksop Rural, and the Mansfield Urban, Sanitary Districts, at £400 per annum, for three years, vice Beevor, deceased.

WILSON, J. M., M.B., C.M., San. Sci. Cert. Cantab., has been appointed Medical Officer of Health for the Doncaster, Goole, Selby, and Tadcaster Rural, and Goole, Selby, and Tickhill Urban, Sanitary Districts, at £560 per annum, until September 29th, 1882.

WOOD, P. M., L.R.C.P.L., M.R.C.S.E., has been appointed Junior Obstetric Assistant to Guy's Hospital for the month of October.

Births, Marriages, and Deaths.

BIRTHS.

CHURCHILL.—On the 4th inst., at Cranley-gardens, South Kensington, the wife of Frederick Churchill, M.D., of a son.

CRAWFORD.—On the 2nd inst., at Raglan-road, Dublin, the wife of Thomas Crawford, M.D., Surgeon-General, Army Medical Department, of a son.

FORT.—On the 3rd inst., at Rochdale-road, Oldham, the wife of Thomas Fort, L.R.C.P.Ed., of a daughter.

GAIRDNER.—On the 7th inst., at 9, College, Glasgow, the wife of Professor Gairdner, M.D., of a daughter.

GOWAN.—On the 2nd inst., at Anston, Rotherham, the wife of Charles Gowan, M.D., of a son.

HABGOOD.—On the 7th inst., at Sussex House, Eastbourne, the wife of Henry Habgood, M.D. &c., of a son.

MATCHAM.—On the 5th inst., at Gladstone-street, St. George's-road, the wife of Alfred Matcham, L.R.C.P.Ed., of a daughter.

NASH.—On the 5th inst., at Lansdowne-road, Notting-hill, the wife of Edmund Nash, M.D., of a daughter.

ROBERTSON.—On the 5th inst., at Chester-street, Bradford, the wife of Fred. F. L. Robertson, M.B., M.R.C.S., of a son.

ROTH.—On the 9th inst., at Grand Parade, Brighton, the wife of Bernard Roth, F.R.C.S., of a son.

SPEED.—On the 31st ult., at Newcross, the wife of Henry A. Speed, M.R.C.S.E., L.R.C.P.Ed., &c., of a daughter.

TREDINNICK.—On the 31st ult., at Strefford, Craven Arms, Salop, the wife of Ernest Tredinnick, of a son.

MARRIAGES.

BOLTON—CORNER.—On the 28th ult., at Kustendjie, Roumania, by the Local Government Authorities, A. Irwin Bolton, M.B., A.B., T.C.D., L.R.C.S.I., Medical Officer to the Danube and Black Sea Railway Company, late Surgeon R.N., late Turkish District Medical Officer, son of the late Rev. Lydon H. Bolton, M.A., of co. Meath, Ireland, to Teresina, daughter of the late Signor Francesco Corner, of Castelnuovo, Dalmatia.

CROWDY—RONALDS.—On the 4th inst., at St. Paul's Episcopal Church, Edinburgh, by the Rev. J. B. Fletcher, M.A., Frederic Hamilton Crowdy, M.B., of Highgate, London, to Eliza Anderson, daughter of Edmund Ronalds, of Bonnington House, Edinburgh.

DAVIDSON—DEANE.—On the 11th inst., at St. Leonard's, Streatham, by the Rev. Stenton Eardley, M.A., assisted by the Rev. F. M. Beaumont, M.A., Charles Davidson, M.D., of Coventry (formerly Surgeon, Royal Navy), to Ellen, fourth daughter of the late Edward Deane and Mrs. Deane, of Fernleigh, Streatham. No cards.

HAINS—POWNING.—On the 9th inst., at St. Mary's, Berry Pomeroy, by the Rev. A. J. Everett, Vicar, assisted by the Rev. W. Watkins, Incumbent of Bridgetown, J. C. Lalande Hains, M.R.C.S., L.R.C.P., of Totness, only son of J. Hains, M.D. &c. (Mayor of Totness), to Mary Susanna, eldest daughter of the Rev. James Powning, B.D., Head Master of Totness Grammar School.

SHUTTLEWORTH—HADWEN.—On the 10th inst., at St. Paul's, Scotforth, Lancaster, by the Rev. William Lockwood Martin, M.A., Vicar of Bettisfield, Flintshire, assisted by the Rev. William Armitage, B.A., Vicar of the Parish, George Edward Shuttleworth, M.D., Medical Superintendent of the Royal Albert Asylum, Lancaster, to Edith Mary, eldest daughter of Henry Hadwen, Esq., of Ashfield, Lancaster.

DEATHS.

BURRELL.—On the 26th ult., at Lochaline, Morven, Alexander Burrell, M.B., aged 28.

CLAYTON.—On the 1st inst., at High-street, Banff, John Clayton, M.R.C.S.E., aged 60.

COWARD.—On the 14th inst., at 22, Queen-street, Huddersfield (late of Middelburg, South Africa), James Eyres Coward, M.R.C.S.E. & L.S.A.L., aged 54.

CROSSE.—On the 8th inst., in London, Edward Crosse, M.R.C.S.E. & L.S.A.L., Surgeon and Accoucheur, aged 67.

DAY.—On the 7th inst., at Bristol, W. E. Day, L.R.C.P.Ed., aged 57.

GILLIGAN.—On the 8th inst., at Edenderry, King's County, Michael Gilligan, M.D., aged 84.

GOODE.—On the 6th inst., at Derby, Henry Goode, M.B., aged 60.

INGLIS.—On the 6th inst., at Floriana, Jersey, James Gordon Inglis, M.D., C.B., Surgeon-General, Army Medical Department, on half-pay, aged 63.

LOGAN.—On the 2nd July, at Torryburn, Paterson, New South Wales, Frederick Lockwood Logan, M.D.

MAXWELL.—On the 6th inst., at Tunbridge Wells, William Brook Charles Maxwell, M.D., aged 55.

MOORE.—On the 8th inst., at Dungiven, co. Derry, William Moore, M.R.C.S.E., aged 82.

MUNGLE.—On the 11th inst., at the Infirmary, Sunderland, Andrew Mungle, M.B., C.M. Ed., only son of Robert Mungle, Staff-Surgeon R.N., of 28, East Claremont-street, Edinburgh.

OFFICER.—On the 8th July, at Tasmania, Sir Robert Officer, M.R.C.S.E., formerly Medical Officer, New Norfolk, afterwards Speaker of the House of Assembly.

ROYSTON.—On the 11th inst., at Brighton, Melvenia, the beloved wife of Charles Royston, M.D., of 1, St. Stephen's-crescent, Westbourne-park, London, W., in her 50th year.

SIMPSON.—On the 3rd inst., at Fintry, Stirlingshire, James Simpson, L.F.P.S.G., aged 85.

STONE.—On the 9th inst., at Grosvenor-place, Bath, Robert Nathaniel Stone, L.R.C.P.Ed.

TATUM.—On the 15th inst., at the residence of his son-in-law, F. W. Stockwell, Eastbourne, Thomas Tatum, F.R.C.S., late Consulting Surgeon of St. George's Hospital, in the 77th year of his age. Friends will please accept this intimation.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

UNDERTAKERS AND THE SICK POOR.

IT is strange that so simple a matter as the removal of the sick should be the cause of continual discussion, confusion, hesitation, and blundering on the part of local authorities. But a short time ago it was pointed out to the guardians of the Bethnal-green Union that the man whom they employed to remove patients suffering from infectious diseases was himself half starving. His average earnings were but 3s. 6d. a week; the dangerous nature of his employment prevented his getting other work, and the whole matter was so scandalous that a number of tradesmen signed a memorial on the subject. Not only was the man inadequately paid, but he was unsuitably chosen. By reason of his stature, four feet six inches, he was unable to control troublesome cases. Thus, a short time ago, a fever patient stripped himself, and he could not prevent this dangerous and improper behaviour on the part of his charge. Nevertheless, this officer has been retained in the service of the parish; no fixed salary has been offered, but he will receive 5s. instead of 3s. 6d. in future for each patient removed. Considering the precautions which should be taken every time a person suffering from fever or other infectious disease is taken to the hospital, for the protection both of the sufferer and the public, we should have thought that the authorities would have taken special care to select a competent man, and to pay him a respectable salary. In the Holborn Union the difficulty is of a different nature. Here a contract has been concluded with a firm of undertakers to remove patients at a fixed charge per head. We do not know whether the undertakers possess the necessary appliances; but in any case we have never heard of a more inappropriate choice. In cases of infectious diseases it is difficult enough to persuade the poor to avail themselves of the special fever hospitals created for such emergencies, and the advent of an undertaker on the scene will certainly not enhance the prospect to their imaginations. The ride to the hospital in the undertaker's conveyance must inevitably suggest that the patient is on his road to the grave, particularly as old mourning coaches are used for the purpose, and certainly the process is not likely to inspire the patient with that hopefulness and confidence which are such useful allies in effecting the cure of disease. Surely proper ambulance waggons are not so costly or difficult to obtain but that each district in this thickly populated metropolis might be provided with them. We have fire-escapes on all sides, which cost far more, and fortunately are not so often required. Yet it must be acknowledged that for the preservation of life and of public health the careful removal of persons suffering from infectious diseases is as necessary as the posting of fire-escapes in various parts of the town.

Medicus.—We do not remember. Reference should be made to the Index.

Dr. W.—Samuel Jackson was the founder of the Prize bearing his name.

MEDICAL REFORM.

To the Editor of THE LANCET.

SIR,—So as to prevent misapprehension upon the subject, I should be glad if you would permit me to say that testimony on behalf of Dr. Lush's Bill will be given to the Select Committee when it resumes its sittings next session by witnesses already named to the Committee by the Medical Alliance Association. These accepted witnesses will be able to repel, by a mass of facts in possession of the Alliance, many of the statements which some of the examined witnesses have made to the Committee.

It may not be out of place just now to state that the witnesses of the Alliance will advocate—in accordance with the provisions of Dr. Lush's Bill, and it is the only Bill which received any discussion in the House of Commons during its last sittings—

1. Conjoint examination, with absolute uniformity of education and fee.
2. Reconstruction of Medical Council, with some direct representation, and a widening of the elective constituencies.
3. Restrictions on illicit practice, and facilitating prosecutions.
4. Great caution in registration of foreign degrees.
5. Reduction in the number of members of the Medical Council.

I was in daily attendance during the late sittings of the Select Committee, and feel satisfied from observations thus acquired that they are desirous of obtaining all *reliable* information they can bearing upon the varied and complicated questions embraced by the subject of medical reform, and I believe a marked impression was made upon the Committee—as it was upon others who listened to it—by the rebutting evidence which with overwhelming force crushed the self-laudatory evidence of the Medical Council given on its own behalf by its chosen representatives.

I am, Sir, your obedient servant,
R. H. S. CARPENTER,
Sept. 9th, 1879. Hon. Sec. Med. Alliance Association.

THE CONTAMINATION OF RESERVOIRS.

THE *Sheffield Daily Telegraph* has rendered good service by indicating to the local authorities a danger which certainly should be familiar to them, but against which no special precaution has, so far as we can ascertain, been taken. The builders are, it appears, busily engaged raising houses in the immediate vicinity of the great reservoir which supplies the town with drinking-water. The houses are within a few feet of the north side of the "Old Great Dam." Their sewers pass close by the reservoir, are laid in the "tipped rubbish" used for basement levels, or the porous shaley ground. Consequently dislocation and leakage will, in all probability, ensue, and the ground is not only favourable to percolation, but slants towards the storage of drinking-water. Heavy rains will, of course, aggravate this danger, and the peril exists below ground and above ground. One sewer has actually burst near to the Godfrey Dam, and befouled all the surrounding earth. The houses are so near the reservoirs that the surface of the latter is covered with the soot, dust, and fine coal blown over from these dwellings. Under such circumstances, the reservoirs should be water-tight, and their condition as such watched with the most minute care. It is, however, always better to avoid these dangers altogether, instead of trusting to precautions as a means of escaping the consequences.

A Constant Reader will find the information he desires in Dr. Hassall's work on Food and its Adulterations.

Mr. John Bulkley Footner is thanked. The cases shall appear.

MORTALITY OF INFANTS IN WORKHOUSES.

To the Editor of THE LANCET.

SIR,—A very interesting and instructive discussion has recently taken place at the Cork Board of Guardians on the above question, with the view of ascertaining the rate per cent. per annum of the deaths of infants under twelve months old who were admitted to the workhouse in a *healthy* state, not infants suffering from any ailment. The following returns were obtained, and there is a difference of opinion as to the mode of calculating the percentage.

172 healthy infants under twelve months were admitted during the year 1878; 132 left the house and went away; 40 remained, and out of that number 12 died; 28 remained. It is argued that the number of deaths should be deducted from the 172 admitted; while it is also argued that the guardians having no further control over the 132 which left the house, the deaths should be taken from the number that remained.

Another return was obtained of the number of infants who were classed as healthy and were in the workhouse on the 28th of August, 1878. 21 were in the house on that day; 15 since left on discharge; 6 remained, and out of that number 4 have died; 2 yet in hospital. Required the percentage per annum.

It may interest some of your readers to know that the Boarding-out Act is largely availed of by the Cork Board of Guardians for orphans and deserted infants. The following return was also laid before the Board of the mortality of this class who were boarded out from infancy up to six or seven years of age, and continued to thirteen years of age. The nurses of sucking infants are paid £8 a year for two years, and all others £6 a year. The number of children boarded out since 1862 up to this date was 550. Out of this number, 114 were adopted by their foster parents; 187 at present at nurse; 232 got situations, and are going on well; 17 died.

Let the two systems be now contrasted—workhouse and the country rearing. A serious problem is involved.

I remain, Sir, yours &c.,
WM. D'ESTERRE PARKER.
Passage West, Ireland, Sept. 14th, 1879.

THE STOCKWELL HOSPITALS.

IN our notice of the reports of the Committee and Medical Superintendents of these hospitals for 1878 (see THE LANCET, Sept. 6th), we attributed certain suggestive observations to Dr. McKellar, which were in reality taken from the report of Dr. Bernard. We regret the inadvertence.

Mr. Jones.—All the expedients and devices of medical advertisers are to be condemned as transgressing the unwritten but received rules of medical etiquette.

Liverpudlian.—The number of such cases of advertisers is unhappily very great.

EPSOM COLLEGE.

To the Editor of THE LANCET.

SIR,—In reference to letters in your issues of August 16th and 23rd, suggesting that the old pupils of Epsom College should meet at an annual dinner in October, your correspondents will be glad to know that the Epsomian Club was founded two years ago with the object of affording opportunities for renewed acquaintance amongst old Epsomians, and now has a large number of members, representing every period in the school's history. As honorary Secretary, I shall be happy to give information about the Club to any old pupil of the College who will communicate with me.

I am, Sir, yours faithfully,
15, St. Thomas's-street, S.E., Sept. 13th, 1879. F. TAYLOR.

THE CONTAMINATION OF THE STROUD WATER-SUPPLY.

VARIOUS facts published recently in the local papers, and notably in the *Bristol Mercury*, denote that, for so large a town, the water-supply of Stroud has been neglected in a disgraceful manner. Nine years ago the water of the Gainey's Well, the reservoir which supplies the lower part of the town, was analysed and condemned, but the water was still distributed to the inhabitants. Now, instead of improvement, we find that, according to a recent analysis made by Dr. Frankland, the water has become even more impregnated by organic matter. At the same time we are informed that a remedy for this evil is not only easy, but would involve no great outlay. By the substitution here and there of six-inch for three-inch pipes, a work estimated at only £300 cost, the lower part of the town could be supplied with the purer water the upper town enjoys. When remedies are so easy, we fail to see what excuse can be given for delay; yet the delay has already been prolonged for nine years!

M.B. Edin.—Mr. George Brown, 12, Colebrooke-row, Islington, is Secretary of the Medical Defence Association.

A Reader of THE LANCET.—We know nothing of the matter.

TREATMENT OF PHTHISIS BY MOUNTAIN AIR.

To the Editor of THE LANCET.

SIR,—The recent discussion at Cork on the Treatment of Phthisis by Mountain Air has given a new aspect to the question. Dr. Allbutt, the champion of the mountaineers, has wonderfully simplified it by throwing over the altitude, rejecting the cold and the low barometric pressure, and claiming an antiseptic atmosphere as the real curative influence. For what is an antiseptic atmosphere? Surely it means pure air. It is not suggested by anyone that the air of Davos contains any extraneous germicidal ingredient. It is antiseptic simply in virtue of its purity; it is clean and pure, free from germs, sterile, and incapable of initiating putrefactive change. If then we are to understand that the usefulness of mountain health-resorts in phthisis depends on purity of atmosphere, the subject is brought out of the region of empiricism within the pale of common-sense. So long as the benefit derived from residence at high altitudes was attributed to low barometric pressure, and to stillness, dryness, or coldness of air, doubt was thrown on everything by well-attested recoveries taking place among exactly opposite surroundings; but if it is the result of the purity and sterility of the atmosphere, the antagonism between the advocates of sea and of mountain vanishes. Both cure by means of this one common property, and it becomes a question of degree, and a subject of physical science to determine where the greatest purity can be found. Phthisis is, however, so complex a disease, is seen in so many forms, and is mixed up with so many superadded morbid conditions, that it will never be possible to discover one climate any more than one drug to suit all cases. Varying degrees of warmth, dryness, and density will always be required by different cases; but if, so far as the phthisis is concerned, the respiration of a germless air is the essential thing, it ought soon to be possible by physical investigation to obtain useful knowledge as to the probable suitableness of any given locality without waiting for the results of long years of empirical experiment on living patients to give answer to the question.

Yours &c.,

Halifax, August, 1879. SOLOMON CHARLES SMITH.

Dr. Glasier.—The particulars about asylums are to be found in the Report of the Commissioners in Lunacy. The first position would be that of clinical assistant. Information as to the colonies can be obtained at the Colonial Office.

D. M. R.—For example, Mr. Barwell's work on the subject would be suitable.

A late Metropolitan House-Surgeon has not authenticated his letter.

SUNBURN.

To the Editor of THE LANCET.

SIR,—I wish to know if any of your readers would kindly enlighten me on the following case.

A young man in the prime of life, light fair complexion, stout build, lymphatic and nervous temperament, enjoys fair health generally; but during the summer months cannot go out of doors on a bright sunny day unless he wears a broad-leaved hat to entirely shade his face from the sun, and gloves on his hands, together with an umbrella. If by chance or through forgetfulness his face or hands become exposed to the sun's rays for even half an hour, he is certain to be laid up for about ten days with the following symptoms and state of parts affected:—On the day after exposure his face presents the appearance of severe sunburn—diffused redness and swelling (complexion naturally pale),—which continues for four or five days, followed by vesication and œdema of eyelids, discharge of serum and desquamation, similar to the course of a case of erysipelas. He has been under different medical treatment from time to time with no success. Lotions and ointments only aggravate instead of relieving the conditions; saline aperients give some little relief. He is the only member of a large family who is thus affected. I would wish to know what the affection might be. Could it be called "solar erysipelas"? Or what condition of the skin it may be due to, and the effectual or preventive treatment, if any, thereof?

I remain, Sir, yours truly,

Mountrath, Ireland, Sept. 3rd, 1879. L.R.C.S.I.

ST. JOHN'S AND ST. WERBURGH'S CHURCHYARDS, DUBLIN.

DR. M'CABE, inspector under the Local Government Board, held an inquiry lately relative to the closing of St. John's and St. Werburgh's Churchyards, Dublin, against future interments. Both are situated in a densely populated district, and evidence was given that they were overcrowded, the soil charged with organic matter, and that there was an absolute necessity for preventing any future burials. It appears that the area of St. John's Churchyard is only 411 superficial yards, and the last interment was in 1850; but from the year 1619 up to that time there were 12,500 interments. Dr. M'Cabe will report to the Local Government Board; and there is no doubt that an order will be made to close the graveyards.

Mr. James Lattey.—We shall be glad to see the paper to which reference is made.

MENTHOL: AN ANTI-NEURALGIC.

To the Editor of THE LANCET.

SIR,—In reply to Dr. Alfred Wright's letter in your journal of the 6th instant, permit me to state that he needed not to inform me of having brought to the notice of the profession so long ago as November, 1870, the virtue of oil of peppermint as a local anæsthetic, seeing that, in common with most of your readers no doubt, I had noticed the following sentences in Ringer's Therapeutics: "Dr. Alfred Wright, of Finchley, says that in China he learned from the natives the practice of painting oil of peppermint on the face in facial neuralgia. He uses it also for gout, the relief it gives in both instances being almost instantaneous."

I gladly accord to Dr. Wright the honour of introducing this practice in England; and, at the same time, I respectfully claim for myself the merit of discovering, what even the Chinese seem to have overlooked, that menthol is the active antiseptic and anti-neuralgic principle of oil of peppermint—there being in our relative positions a slight analogy to those of the introducer of a drug and the discoverer of the properties of its alkaloid principle. Strictly viewed in this light there is no issue, and therefore there need be no controversy between us.

The only difficulty I have to contend with, in the meantime, is a deficient supply of menthol, which, however, will probably soon be augmented by Messrs. Duncan, Flockhart, and Co., of Edinburgh.

In conclusion, allow me to give the opinion that the therapeutic uses of the essential oils would be greatly extended, especially as nerve sedatives and even antiseptics, by the substitution in many cases of their active principles for the oils themselves.

I am, Sir, yours obediently,

Braco, Perthshire, Sept. 9th, 1879. A. D. MACDONALD.

An Old Fellow.—The Report of the President to which our correspondent refers is no longer sent to all the Fellows; but a copy can be obtained by sending for it. THE LANCET, in the report of the Collegiate proceedings at different times during the year, has anticipated much of what has just been published.

Dr. J. E. Morgan's paper will appear in an early number.

THE "IDEAL INTRODUCTORY."

To the Editor of THE LANCET.

SIR,—I highly approve of your article on the "Ideal Introductory." In my opinion, however, you omitted one thing, which is perhaps solely applicable to the London schools. I do not see why each of these schools should have an introductory. It would be far better to collect the teachers and students of all the schools in one place, and give *one* introductory. This would certainly be a great saving of lecturing power. It would be attended with much more *éclat*. The gentleman who was to give the address, knowing before what a large and splendid audience he was to speak, would be put on his mettle to do his very best, and as a result something would be delivered which would impress at the time, and be read and pondered over afterwards. The teachers of the schools in fixed rotation should have the delivery of the annual introductories. Each gentleman would know years before when his turn would be, and could be reading and thinking, with the certain result which I have mentioned. There would be no difficulty in finding a place for the address, and the College of Surgeons, whose enormous prestige dominates the whole profession in England, would be naturally expected to provide it.

I am, Sir, yours truly,

WILLIAM PRATT, F.R.C.S.

Montgomeryshire Infirmary, Newtown, Sept. 1st, 1879.

GRATUITOUS ADVICE.

A CORRESPONDENT sends us the copy of a letter that he has addressed to the College of Surgeons on this subject. Though good in substance, the communication is too long for insertion.

Mr. D. Macnellage, (Spennymoor.)—The letter is unsuited for publication.

PRISON DIET.

To the Editor of THE LANCET.

SIR,—May I be allowed to suggest, as a practical rule which would tend to obviate the occurrence in prison of deaths such as that of Margaret Girvan, the desirability of enacting that all prisoners who on conviction weighed one stone less than the average for their height should be placed at once on meat diet, without needing an order from the medical officer.—I am, Sir, yours &c.,

T. WEMYSS BOGG, M.B. Lond., M.R.C.P.,

September, 1879. Late Surgeon, Louth Prison.

THE SALARY OF A METROPOLITAN MEDICAL OFFICER.

THE medical officer of health for Bow has an area of 809 acres placed under his charge, though the other metropolitan sanitary districts comprise on an average only 422 acres each. Nor is the character of the population at Bow such as to require but slight supervision. On the contrary, the labour is great, the responsibility serious, and the salary only £130 per annum. It has been proposed to raise this to £150; but the question was postponed for several months because the actual officer of health has been newly appointed to the post. We should imagine that it would not be difficult to discover whether the work to be done in so large a district as this was sufficiently remunerated. Evidently, if the health of the metropolis is to be preserved, those entrusted with this most useful of all duties should be dealt with liberally.

Mr. N. W. Allt.—The regulations are expected to appear shortly.

THE TREATMENT OF PROLAPSUS ANI.

To the Editor of THE LANCET.

SIR,—Why should ergotine, or, in fact, any poison, be employed so long as cases of the kind prove perfectly amenable to more gentle treatment? Allow me to quote a case; it is one of a series, and typical.

J. W——, aged fifty, a well-to-do tradesman, came under treatment in June, 1866, a victim of prolapsus ani. He had suffered from dyspepsia throughout life, and had when he visited me an ulcer, the result of eczema, on his right leg. I gave him strict injunctions as to diet, and directed that he should instruct a builder to make him a box-stool, containing the wherewithal to pump a stream of water on to his perineum. He carried out my instructions, and within two months completely cured his prolapsus. The prolapsed portion of rectum was about four inches in length. It had existed for several years.

The administration of phosphorus and strychnine, plus a daily sponging from head to foot with cold water, are invaluable accessory means of treatment in cases of general relaxation the result of dyspepsia.

Yours &c.,

Hastings, Sept. 6th, 1879. J. BEADNELL GILL, M.D.

To the Editor of THE LANCET.

SIR,—In your journal of the 6th instant you mention that M. Vidal recommends the injection of a solution of ergotine in the treatment of prolapsus ani. I should feel obliged if any of your readers can inform me how much ergotine and how much water to use for each injection (enema I presume), and how often to be repeated.

Yours truly,

Sept. 11th, 1879. JOHN REYNOLDS, Surgeon.

Mr. F. M.—Coroners are now generally paid by salary, and there is undoubtedly an inducement to limit the number of inquests and post-mortem examinations. The whole situation is most unsatisfactory.

Mr. Frank Ramsden.—Typhoid fever.

L.R.C.P.E.—It is not "the correct thing" for a M.B. of any University to advertise.

Mr. Jas. Whitson.—We cannot assist our correspondent.

"AERATED DRINKS AND THEIR EFFECTS."

To the Editor of THE LANCET.

SIR,—We beg to thank you for directing attention to the letter and your remarks on "Aerated Drinks and their Effects" on page 337 of your issue of August 30th. From the correspondence we have read on the subject, it would appear that there are some vulcanite bands that are free from poisonous ingredients, and some that are not.

A small piece of iron wire, tinned or untinned, in a bottle, will cause the water poured from it on brandy to form a dark and inky mixture. The same effect is produced in some cases if the water has stood for any length of time in an iron or lead pipe. The main objections to the stoppered bottles at present in use arise, we think, from the fact that that which is outside the bottle, and liable to contamination of various kinds, is, on opening the bottle, thrust into it, and washed in the water that is to be immediately partaken of; also as to the frequent and undoubted taste of vulcanised india-rubber. Perhaps in consequence of these drawbacks, stoppered bottles are chiefly in use when quality is not likely to be observed or is not considered important. It is certain that but few manufacturers who have a reputation for the quality of their waters to maintain have at present adopted them.

For ourselves, we should be only too glad to make use of so-called patent stoppered bottles if the objections above referred to could be removed. We are, Sir, your obedient servants,

MAY, DAVIS, AND CO.

Esher-street, Westminster, September, 1879.

To the Editor of THE LANCET.

SIR,—I beg to state I have received from Messrs. Codd and Co. a sample of their patent stoppers, and that I cannot produce the turbidity of which I spoke. The stopper I herewith send is similar to the one I drew attention to. The correspondence in the *Morning Advertiser* is too lengthy to admit of my replying; but I shall be happy to bear out my remarks by analysis of stoppers. As to one correspondent asking why feeding-bottles are not injurious, the answer is very simple—viz., there is no carbonic-acid gas in milk! Messrs. Codd's are certainly, in my opinion, the best stoppers. Yours obediently,

Pucklechurch, near Bristol, Sept. 1879. EDWD. T. THOMAS.

Two Candidates.—The result of the recent Arts examinations at Burlington House for the diplomas of Fellowship and Membership of the College of Surgeons will, we are informed, be communicated to the candidates next week. There are several hundred papers to be carefully read.

Grassi.—The map published by the Geological Survey or Stanford's map, showing the superficial deposits. Both maps or either map may be obtained from E. Stanford, Charing-cross.

A Thirty Years' Subscriber.—Dr. West's work on the subject.

UNCERTIFIED DEATHS.

To the Editor of THE LANCET.

SIR,—Perhaps you will kindly insert the following case in your journal.

I was called on August 24th to see a middle-aged woman. On my arrival I found her lying upon the bed, dead. I had never previously attended her, and up to the time of her death she seemed to be in good health. I instructed the husband to communicate with the authorities, in order that an inquest and post-mortem, if considered necessary, might be held without delay, which he did. Much to my astonishment, I received no communication from the coroner, and on making inquiries I find that no inquest or post-mortem has been held.

Now, Sir, I should like to know if the coroner possesses sufficient authority in such a case to grant a certificate without holding an inquest. I am myself under the impression that he does not.

I enclose my card, and am, Sir, Yours truly,

August 30th, 1879. M.R.C.S.

"HYPODERMIC INJECTION OF MORPHIA."

WE are asked to reproduce the following:—

"Dr. H. H. Kane, of New York city, who has for some time past been collecting statistics on the hypodermic injection of morphia, would consider it a great favour if members of the profession who see this and have had experience with the instrument will answer the following questions:—

"1. What is your usual dose?

"2. Do you use it alone or with atropia?

"3. What is the largest amount you have ever administered?

"4. Have you had inflammation or abscess at the point of puncture?

"5. Have you had any deaths or accidents caused by this instrument?

"6. Do you know of any cases of opium habit thus contracted?

"Where there has been an autopsy (5) please state the fact and the results obtained therefrom. All communications will be considered strictly confidential, the writer's name being used only when he gives his full consent thereto. Address all letters to Dr. H. H. Kane, 906, Bleecker-street, New York.

Justitia.—The question has not been decided; but we think, on the literal construction of section 32 of the Act of 1858, there would be a claim. But has our correspondent noticed the preamble of the Act, which certainly implies that registration is an urgent duty?

Dr. C. Delavaille.—At a future time.

SOAPWORT IN ECZEMA.

To the Editor of THE LANCET.

SIR,—Can you or any of your readers kindly inform me of the value of the use, internally or externally, of soapwort (Saponaria officinalis) in chronic eczema? In the New Sydenham Society's recent publication, "Bibliotheca Therapeutica," by Dr. Waring, the only works upon its use mentioned are by Claudinus (1612), Ludolff (1756), and Cartheuser (1760).

I am, Sir, yours faithfully,

Aug. 26th, 1879. T. CARTER WIGG, M.D.

Deputy Medical Officer.—It must depend on the terms and length of the appointment whether a medical officer of health can be displaced by a new arrangement. In any event the deputy is subject to the conditions of the position accepted by his chief.

L.R.C.P. London.—Neither of the licences gives a right to assume the title of "Doctor."

W. A. P.—We never name particular physicians.

THE IODOBROMIDE OF POTASSIUM IN EPILEPSY.

To the Editor of THE LANCET.

SIR,—Most medical men will have met with cases of epilepsy in which the administration of the bromide of potassium, even in the largest doses, has failed to produce any beneficial effect. Few, however, seem to be aware of the important fact that by combining the *iodide* with the *bromide* a cure is speedily effected in the majority of such cases.

I am, Sir, yours truly,

Preston, Sept. 15th, 1879. CHARLES J. GREEN, M.R.C.S.

Dr. Maclapan might address his inquiry to one of the private institution keepers. We cannot name a particular establishment of the class indicated.

E. A. W.—We cannot name any practitioner.

M. O. H.—The Water Companies will themselves probably interfere if the matter is reported to them. They are just now looking into these matters from their own point of view.

L. G. H.—Reynolds, Roberts, or Niemeyer.

E. M. S., (Liverpool.)—Taking the names in the order our correspondent has followed, the under-mentioned ex-members of the Council are still living:—Messrs. J. M. Arnott, Cæsar Hawkins, J. F. South, and James Luke. They have all been Presidents of the College.

C. T.—Apply to Dr. T. Wilson, Alton, Hants.

Mr. T. Clifton Martin.—Vulpian's lectures would be useful for the purpose named.

A Parent.—We regard them as unnecessary, and in many ways injurious to health and morals.

CORRIGENDUM.—In the paragraph headed "Monstrum Horrendum," page 374, col. 1, line 19, between the words "above, which," read "the sense of pain did affect one body only."

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Stone, London; The Duke of Sutherland; Professor Postgate, Birmingham; Dr. McCall Anderson, Glasgow; Mr. Daniels, London; Mr. Ashenden, Hastings; Dr. Walker, Fulbourne; Dr. Hillis, Demerara; Mr. Norris; Dr. Kebbell, Brighton; Dr. Glasier, Lincoln; Dr. Reynolds, Peel; Mr. Beck, London; Mr. Hope, London; Mr. Tonge-Smith, London; Dr. Skerritt, Bristol; Dr. Caton, Liverpool; Mr. Jackson, Wolverhampton; Dr. Shuttleworth, Paris; Messrs. Baildon, Edinburgh; Mr. Cunningham, Hartlepool; Mr. Glanville, Ramsgate; Mr. Colson, Ahmednuggur; Dr. Easby, March; Dr. Bogg, Louth; Mr. Lattey, Kensington; Dr. Gill, Hastings; Messrs. Christy and Co., London; Dr. Davis; Mr. Hopkins, Bath; Mr. Baxter, London; Dr. Dowse, London; Mr. Carpenter, London; Dr. Kane, New York; Mr. Lowther, Hull; Mr. Fane, Westport; Mr. Green, Preston; Dr. Marshall, Nottingham; Mr. Meggis, Scarborough; Mr. Hopgood, Sunderland; Mr. Stretton, Worcester; Mr. Lush, Market Lavington; Mr. Ellis, Eastbourne; Mr. Parker, Passage West; Mr. Knell, London; Mr. Ingpen, London; Mr. Mackenzie, South Elton; Mr. Palmer, Ash Hill; Dr. F. Taylor, London; Mr. Weaver, Longton; Mr. Wright, Leeds; Mr. Hinson, London; Mrs. Clark, South Kensington; Mr. Martin, Preston; Mr. Nicholls, Croydon; Dr. M'Lagan, Newcastle-on-Tyne; Dr. Bruce, Orkney; Dr. Browne, Belfast; Sir E. A. H. Lechmere, London; Dr. Bryden, Newcastle; Mr. Lawrence, Hadlow; Mr. Warner, London; Dr. Thomas, Glasgow; Dr. Sparks, Crewkerne; Mr. Forbes, New York; Mr. Burbidge, Coventry; Mr. Makuna, Fulham; Mr. Prescot, Hull; Dr. Bartlett, London; Major Mercier, London; Mr. Rayne, Devonport; Miss Nelson, Surbiton; Dr. Foote, Rotherham; Mr. Radcliffe, Arcachon; Messrs. Remington and Co., London; Mr. A. G. Brown, London; Dr. Shertzer, Baltimore; Dr. Gibson, Newcastle-on-Tyne; M. A. P.; M.B., Edinburgh; M. O. H.; L. G. H.; Medicus, Glasgow; E. D. W.; A Constant Reader; Medicus; N.; J. C. W., Chester; Galen; D. M. O.; Senex; Enquirer; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Cooper, Bolton; Mr. Brown, Hartlepool; Mr. King, Edinburgh; Mr. Ross, Alderney; Messrs. Smith and Son, Manchester; Mr. Utting, Exeter; Mrs. Bedingfield, London; Mr. M'George, Newry; Mr. Hornman, London; Mr. Mander, Grimsbury; Mr. Sergeant, London; Mr. Morris, Eastham; Mr. Horseford, Coventry; Mr. Gleadthorpe, Hornsey; Mr. Claremont, Sheffield; Mr. Tredinnick, Strefford; Mr. Walford, Dublin; Dr. Fausset, Tamworth; Mr. Lawson, London; Mr. Maggs, Yeovil; Mr. Blyth, Newcastle-on-Tyne; Mr. Drew, Stow-on-the-wold; Mr. Deb, Mitcham; Mr. Boyce, Shrewsbury; Mr. Fernley, Nantwich; Mr. Norman, Colchester; Mr. Clayton, Banff; Dr. Mungle, Edinburgh; Mr. Ashdown, Bryn Haford; Mr. Rundle, Totnes; Mr. Cower, Huddersfield; Mr. Croghan, Dublin; Mr. Whitton, Kidderminster; Mr. Cottrell, Margate; Mr. Loeflund, Stuttgart; Miss Clark, Birmingham; Dr. Charteris, Dieppe; Mr. Smith, Liverpool; Mr. Robson; Mr. Wilson, Eastbourne; Mr. Taylor, Ludlow; Mr. Smith, Cannington; Dr. Royston, London; Mr. Shagett, Gloucester; Mr. North, Brecon; Mr. Vachell, Cardiff; Mr. Young, Chilton Polden; Mr. Habgood, Eastbourne; Mr. Wheeler, Ventnor; Mr. Samson, York; Mr. Chandler, Balham; C. B.; Medicus, Cheltenham; S. G. S., Tunbridge Wells; W. D. M., Waterhouse; R., Barnsley; Chirurgus; P. W. S.; Ajax; A. B., Folkestone; S. A., Hull; Omega; A. W. T., Newton Abbot; M. S., Brighouse; Mater; A. B., Derby; M. P., London; F. D., Bromyard; L. S. A., Exeter; C. C. B., Stockbridge; X.; P. P.; Surgeon, Barnsley; E. F., Maidstone; R. H. B., Nottingham; R. S. B., Alfreton; H. G.; B. A., Halifax; Sigma, Biggleswade; Surgeon, Manchester; H. S. J., Brecon; Surgeon, Worle; E. A. J. H.; X. Y. Z.; Student, Sheffield; P. Q.; S. W., Upton; Medicus, Leeds; Medicus, Monkstown; A. M., Shepherd's-bush; J. T.; A. C.; L. M.; Medicus, Champion; C. W., Wells; M.; Medicus, Bayswater; Yorks; T. E. A.; B., Stockport; M. D.; H. E. R. G., Bury St. Edmunds; M.R.C.P.; M. W. C.; A. B., Tunbridge Wells; Z., Manchester; C. A.; Junius; Surgeon, Hulme; M.R.C.S., Birmingham; Omicron, Bristol; B. R. M.; J. B.; Registrar, Bath; G. B.; Medicus, Derby; A. M. C.; M.R.C.S., Kilburn; P. H. A.; A. B., Pimlico; S. M. P., Cambridge; G.; Alpha, Sheffield; G. N. R., Buxton; A. D.; H. O. C.; C. H. A.; L. S., Bristol; Urbs; D. H., Sadbury; W. M., Rotherham; Theta, Ware; W. A.; Medicus; A. B. C.; Physician, Bishops Walton; L.K.Q.C.P.

Bury and Norwich Post, Pioneer, Welsh Fredonian, Staffordshire Daily Sentinel, Morningside Mirror, Brighton Guardian, Coventry Herald, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Sept. 18th, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Sep. 12	29·11	S.W.	60	57	80	65	55	..	Overcast
,, 13	29·73	W.	59	56	83	67	54	0·12	Cloudy
,, 14	29·83	W.	60	57	91	66	53	0·68	Cloudy
,, 15	30·04	W.	55	53	90	66	49	..	Foggy
,, 16	29·99	E.	58	55	93	67	51	..	Cloudy
,, 17	29·93	E.	60	59	..	65	56	0·02	Overcast
,, 18	29·98	E.	60	59	..	64	57	0·03	Overcast

Medical Diary for the ensuing Week.

Monday, Sept. 22.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS. — Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Tuesday, Sept. 23.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Sept. 24.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. — Operations, 2½ P.M.

Thursday, Sept. 25.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 2 P.M., and on Friday at the same hour.

Friday, Sept. 26.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Ordinary Meeting.

Saturday, Sept. 27.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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